

5/29/2013

Highbay Fluorescent - 2, 4, 6, 8 or 10 Lamps T8 or T5 I-Bay



Occupancy sensor is inside the fixture, not coming out of the ends.

Applications

Warehouse	Cafeteria
Manufacturing Facility	Auditorium
	Gymnasium

Features

- Heavy Duty pre-painted steel construction
- Easy access to wiring compartment & ballast
- Access plate provides access to electrical wiring without the need to open the fixture
- Factory installed lamp option available
- Choice of 86% Standard Specular Aluminum Reflector (A), 95% Specular Enhanced Aluminum Reflector (E) or 91% White Reflector (W) (See our detailed reflector option table)
- Choice of standard or high efficiency designs
- Choice of 10% uplight or no uplight
- Factory Installed Integral Occupancy Sensor option - Occ Sensor is inside the fixture and does not extend from the end of the fixture
- Factory Installed Emergency ballast option*
- Factory Installed Toggle Switch*
- Factory Installed Wireguard option
- Custom configurations available
- Can be easily mounted by a single person
- Suspended mounting insures a quick painless install
- Chain and V-Clip Hanging option
- Wire cable hanging option
- Special wiring available upon request
- Multiple supply cord options Cords/Cord sets are connected to access plate
- UL Listed for Damp Locations

*Not available in all configurations - Consult Factory before ordering.

Specifications subject to change without notice.

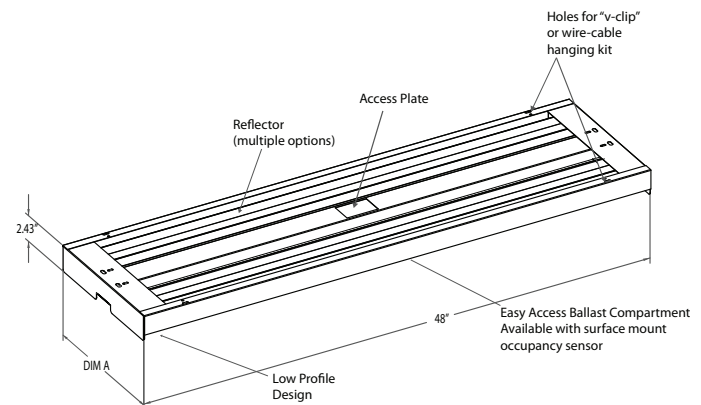
Project:	
Catalog#:	
Approved by:	

Description

HIB series high-bay fluorescent fixture is a great energy saving alternative to traditional HID high-bay fixtures. This fixture operates two to ten lamps and has a low profile design. HIB has multiple reflector options for your application.

Benefits

- Energy Savings Compared to HID systems
- Exceptional Color Rendering
- High System Efficiency
- Long Lamp Life
- Instant On/Re-strike Capability
- Quality Lamp Holders
- Computer Designed Reflectors
- System Tested, Designed, Approved, and Manufactured by Howard Industries in Mendenhall Mississippi.
- Compliant with Safety and performance standards.



Dimension A (Width in inches)	
2 Lamps*	8.90"
4 Lamps	13.25"
6 Lamps	16.30"
8 Lamps*	24.10"
10 Lamps*	24.10"

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Highbay Fluorescent - 2, 4, 6, 8 or 10 Lamps T8 or T5 I-Bay

Project:	
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Ordering Information

Model Family	Distribution/Reflector (see tables 1-5, p3)	No. of Lamps	Lamp Type/Wattage	CRI/CCT	Ballast	Input Volts	Factory Installed Options	Cordset Options	TBA	Pack.
HIB	HE	4	54	A	PS	MV	00H	07	0	I
HIB	H: Highbay F: Highbay high eff. U: Highbay 10% uplight T: Highbay 10% uplight high eff. W: Wide Distribution high eff. Y: Wide Distribution 10% uplight high eff.	2 4 6 8 10 ⁽¹⁾	T8 Lamps 28: F28T8 32: F32T8 T5 Lamps 54: F54T5HO 49: F54T5HO/ES	CRI CCT High Lumen T8 T5 A: No Lamps B: 75 3000 X C: 75 3500 X D: 75 4100 X E: 75 5000 X F: 85 3000 X X G: 85 3500 X X H: 85 4100 X X I: 85 5000 X X J: 85 6500 X K: 85 3000 Yes X L: 85 3500 Yes X M: 85 4100 Yes X N: 85 5000 Yes X	High Efficiency (CEE Listed) HE: High Ballast Factor SE: Standard Ballast Factor LE: Low Ballast Factor P8: Program Rapid Start ⁽²⁾ T5 Program Rapid Start PS: PRS T5	MV: 120-277v HV: 347-480v (T5HO) AX: 480-277 Stepdown Autotransformer ⁽³⁾	000: None Integral Occ. Sensor ⁽⁴⁾ L: Lowbay (20ft MH) H: Highbay (40ft MH) B: Emergency Ballast ⁽⁵⁾ G: Wireguard I: Special wiring T: Toggle switch bi-level lighting control ⁽⁶⁾	00: Standard Disconnect 01: 6' SJT 18/3, no plug 02: 10' SJT 18/3, no plug 03: 6' SJT 18/3 L5-15, twist lock 120v 04: 10' SJT 18/3 L5-15twist lock 120v 05: 6' SJT 18/3 5-15non twist lock 120v 06: 10' SJT 18/3 5-15non twist lock 120v 07: 6' SJT 18/3 L7-15 twist lock 277v 08: 10' SJT 18/3 L7-15 twist lock 277v 11: 16/3, no plug specify length 17: 18/3, no plug specify length 22: 6' SJT 16/3 L7-20 twist lock 277v 23: 6' SJT 18/3 L6-15 twist lock 240v *Other cordsets available, consult customer service	TBA	I: Single B: Bulk

Sample Ordering Number:
HIB HA 4 54 A PS MV 00H 07 I
 HIB Series Highbay Fluorescent
 Highbay Enhanced Aluminum Reflector
 4-lamps (none installed)
 F54T5HO Program Rapid Start Ballast
 Multi-volt (120-277v)
 Factory Installed Highbay Occupancy Sensor
 6' SJT 18/3 L7-15 twist lock 277v Cordset
 Single Packaging

Ballast Descriptions	
SE	Standard Ballast Factor High Efficiency Instant Start T8 Ballast
HE	High Ballast Factor High Efficiency Instant Start T8 Ballast
LE	Low Ballast Factor High Efficiency Instant Start T8 Ballast
PS	Program Rapid Start T5 Ballast
P8	Program Rapid Start High Efficiency T8 Ballast

Distribution Explanation
H: Highbay
F: Highbay High efficiency
U: Highbay 10% uplight
T: Highbay High efficiency 10% uplight
W: Wide Dist. High efficiency
Y: Wide Dist. High efficiency 10% uplight

Field Installed Options	
HIB-WG	Wireguard
HF-WCH	Wire Cable Hanging Kit
HF 2CV	2' hanging chain & V-clips
HF 3CV	3' hanging chain & V-clips

- 10 Lamp Configuration available in HEMV, P8MV, or PSMV only.
- T8 Programmed Rapid Start recommended only in the case of frequent switching (as with an occupancy sensor). Instant Start T8 is appropriate for most ordinary applications.
- Allows hook-up of standard MV ballast to 480V, may not fit with all ballast options. Available with 2, 4, and 6-lamp fixtures only.
- Occupancy Sensors should only be used with programmed rapid start ballasts. Standard Occupancy Sensor requires neutral wired fixtures (ex. - 120v or 277v). For phase-to-phase voltage applications (240v) advise Customer Service at time of request.
- 500 Lumen ballast is standard for T8. 120 or 277v input only. Advise Customer Service at time of quote for higher lumen rated ballast. Not available in all configurations - Consult Factory before ordering.
- Allows for separate control of two ballasts through simple "toggling" of a standard wall switch. Recommend use of programmed rapid start ballast with this control. 120 or 277v control only; default wired for 277v; specify 120v wiring at time of order if applicable. Not available in all configurations - Consult Factory before ordering.

Specifications subject to change without notice.



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Highbay Fluorescent

Table 1: Fixture Efficiency				
2 LAMP				
Dist	Type	A	E	W
H Highbay	T8	NA	NA	NA
	T5	NA	NA	NA
F Highbay High eff.	T8	86	91	84
	T5	88	93	87
U Highbay 10% uplight	T8	NA	NA	NA
	T5	NA	NA	NA
T Highbay High eff. 10% uplight	T8	88	93	88
	T5	90	95	89
W Wide Dist. High eff.	T8	78	86	83
	T5	81	88	85
Y Wide Dist. High eff. 10% uplight	T8	82	89	86
	T5	84	91	88

Standard Reflector Option

Table 2: Fixture Efficiency				
4 LAMP				
Dist	Type	A	E	W
H Highbay	T8	85	90	85
	T5	86	91	85
F Highbay High eff.	T8	86	91	85
	T5	89	94	88
U Highbay 10% uplight	T8	88	93	89
	T5	90	94	91
T Highbay High eff. 10% uplight	T8	88	93	88
	T5	91	95	91
W Wide Dist. High eff.	T8	80	87	85
	T5	84	91	88
Y Wide Dist. High eff. 10% uplight	T8	84	89	87
	T5	86	92	89

Standard Reflector Option

Table 3: Fixture Efficiency				
6 LAMP				
Dist	Type	A	E	W
H Highbay	T8	82	88	83
	T5	86	92	88
F Highbay High eff.	T8	84	89	83
	T5	88	93	87
U Highbay 10% uplight	T8	86	90	87
	T5	89	93	90
T Highbay High eff. 10% uplight	T8	87	91	87
	T5	91	95	90
W Wide Dist. High eff.	T8	79	85	83
	T5	83	89	87
Y Wide Dist. High eff. 10% uplight	T8	83	88	86
	T5	87	92	90

Standard Reflector Option

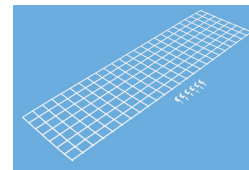
Table 4: Fixture Efficiency				
8 LAMP				
Dist	Type	A	E	W
H Highbay	T8	83	88	84
	T5	86	92	88
F Highbay High eff.	T8	84	90	84
	T5	89	94	88
U Highbay 10% uplight	T8	86	90	87
	T5	89	93	91
T Highbay High eff. 10% uplight	T8	88	92	87
	T5	91	95	91
W Wide Dist. High eff.	T8	80	86	94
	T5	84	90	88
Y Wide Dist. High eff. 10% uplight	T8	84	89	87
	T5	87	92	90

Standard Reflector Option

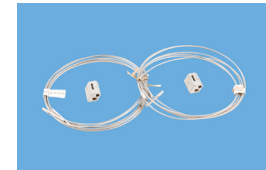
Table 5: Fixture Efficiency				
10 LAMP				
Dist	Type	A	E	W
H Highbay	T8	78	84	81
	T5	84	90	87
F Highbay High eff.	T8	80	86	80
	T5	87	92	86
U Highbay 10% uplight	T8	82	87	84
	T5	87	92	89
T Highbay High eff. 10% uplight	T8	84	88	84
	T5	89	94	89
W Wide Dist. High eff.	T8	77	83	80
	T5	83	89	86
Y Wide Dist. High eff. 10% uplight	T8	81	85	84
	T5	86	90	88

Standard Reflector Option

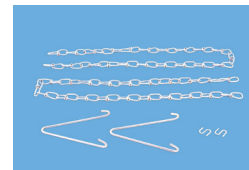
Field Installed Options



HIB WG
Wireguard

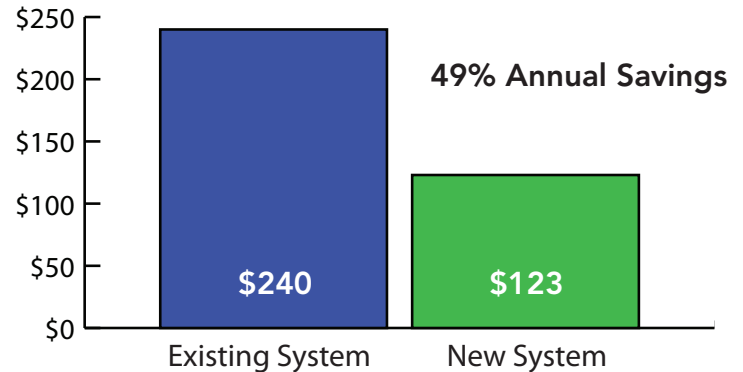


HF-WCH
Wire Cable Hanging Kit
(2 pcs per kit)



HF-2CV (2 foot)
HF-3CV (3 foot)
Hanging Chain & V-clips

Energy Cost Estimator					
		Existing System		New System	
		400W MH Highbay		HIBE454APS Program Start T5 Ballast Fluorescent Highbay	
Hours burned per year	4368	Number of Fixtures	1	Number of Fixtures	1
Cost per kWh\$	0.12	Watts per Fixture (existing system)	458	Watts per Fixture (new system)	234
Energy Cost Estimation		Energy used per year (existing system)	\$240	Energy used per year (new system)	\$123
		Energy saving per year (per fixture)	\$117.00		



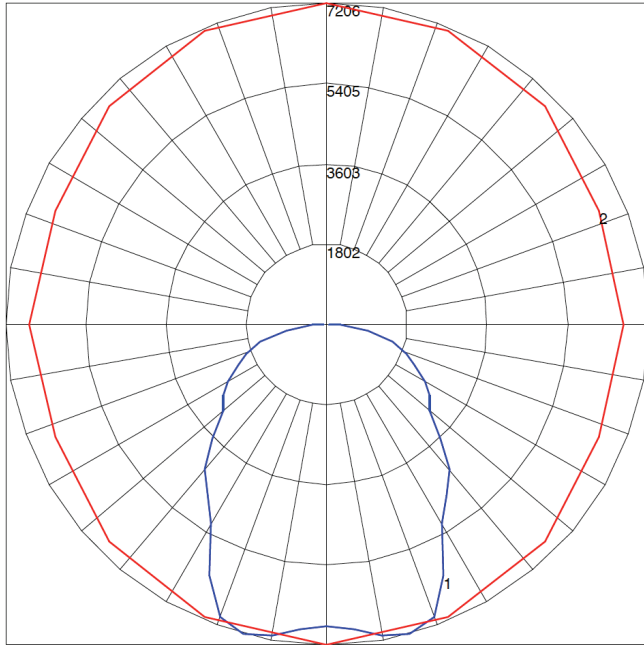
Specifications subject to change without notice.

5/29/2013

Photometric Data - 4 Lamp T5 (HIB FE 454A PSMV)
Highbay High Efficiency Distribution
Enhanced Specular Aluminum Reflector

Project:	
Catalog#:	
Approved by:	

Candela Polar Plot



Test Report: HIB-FE-454 2012-01-24.IES

Spacing Criteria (0-180): 1.28
Spacing Criteria (90-270): 1.16
Spacing Criteria (Diagonal): 1.32

Maximum Candela = 7206.2

Located At Horizontal Angle = 90, Vertical Angle = 15
1 - Vertical Plane Through Horizontal Angles (90 - 270) (Through Max. Cd.)
2 - Horizontal Cone Through Vertical Angle (15) (Through Max. Cd.)

Fixture Efficiency:
94.1%

Zonal Lumen Summary

Zone	Lumens	%Lamp	%Fix
0-20	2594.04	13.00	13.80
0-30	5533.53	27.70	29.40
0-40	8838.57	44.20	47.00
0-60	14797.6	74.00	78.70
0-80	18353.38	91.80	97.60
0-90	18811.97	94.10	100.00
10-90	18159.7	90.80	96.50
20-40	6244.53	31.20	33.20
20-50	9458.07	47.30	50.30
40-70	8102.19	40.50	43.10
60-80	3555.78	17.80	18.90
70-80	1412.61	7.10	7.50
80-90	458.60	2.30	2.40
0-180	18811.97	94.10	100.00

Luminance Data (cd/Sq.m)

Angle In Degrees	Average 0-deg	Average 45-deg	Average 90-deg
45	15148	12277	11052
55	14574	10292	10163
65	13788	9199	9888
75	11634	8877	9930
85	7727	4540	3692

Coefficients of Utilization - Zonal Cavity Method

Effective Floor Cavity Reflectance 0.20																		
RC	80				70				50			30			10			0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
0	112	112	112	112	109	109	109	109	105	105	105	100	100	100	96	96	96	94
1	102	98	93	90	100	95	92	88	91	88	86	88	85	83	84	82	80	78
2	93	85	79	73	90	83	77	72	80	75	71	77	73	69	74	71	68	65
3	85	75	67	61	83	73	66	61	71	65	60	68	63	58	66	61	57	55
4	78	67	58	52	76	65	58	52	63	56	51	61	55	50	59	54	50	48
5	72	60	51	45	70	59	51	45	57	50	44	55	49	44	53	48	43	41
6	66	54	46	40	65	53	45	39	51	44	39	50	43	39	48	43	38	36
7	62	49	41	35	60	48	40	35	47	40	35	45	39	34	44	38	34	32
8	57	45	37	31	56	44	37	31	43	36	31	42	35	31	41	35	31	29
9	54	41	34	28	52	41	33	28	40	33	28	39	32	28	38	32	28	26
10	50	38	31	26	49	38	30	26	37	30	26	36	30	25	35	29	25	24

Specifications subject to change without notice.

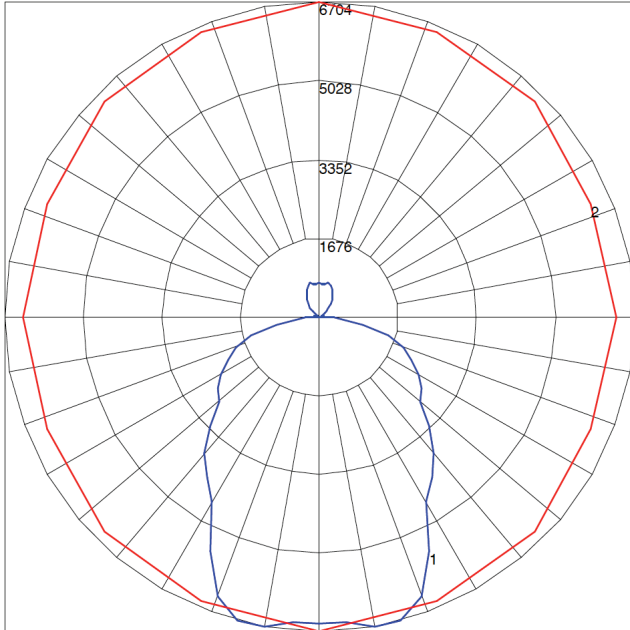
Highbay Fluorescent

5/29/2013

Photometric Data - 4 Lamp T5 (HIB TE 454A PSMV)
Highbay High Efficiency 10% Uplight Distribution
Enhanced Specular Aluminum Reflector

Project:	
Catalog#:	
Approved by:	

Candela Polar Plot



Zonal Lumen Summary

Zone	Lumens	%Lamp	%Fixt
0-20	2446.16	12.20	12.80
0-30	5147.81	25.70	27.00
0-40	8136.9	40.70	42.70
0-60	13544.67	67.70	71.10
0-80	16900.6	84.50	88.70
0-90	17337.3	86.70	91.00
10-90	16712.67	83.60	87.70
20-40	5690.75	28.50	29.90
20-50	8588.5	42.90	45.10
40-70	7415.15	37.10	38.90
60-80	3355.93	16.80	17.60
70-80	1348.54	6.70	7.10
80-90	436.70	2.20	2.30
90-110	118.95	0.60	0.60
90-120	245.11	1.20	1.30
90-130	467.96	2.30	2.50
90-150	1122.7	5.60	5.90
90-180	1710.07	8.60	9.00
110-180	1591.12	8.00	8.40
0-180	19047.37	95.20	100.00

Test Report: HIB-TE-454 2012-01-24.IES

Spacing Criteria (0-180): 1.26
Spacing Criteria (90-270): 1.10
Spacing Criteria (Diagonal): 1.26

Maximum Candela =6704.41

Located At Horizontal Angle = 90, Vertical Angle = 15
1 - Vertical Plane Through Horizontal Angles (90 - 270) (Through Max. Cd.)
2 - Horizontal Cone Through Vertical Angle (15) (Through Max. Cd.)

Fixture Efficiency:
95.2%

Luminance Data (cd/Sq.m)

Angle In Degrees	Average 0-deg	Average 45-deg	Average 90-deg
45	14401	10723	10067
55	13533	9236	9574
65	12406	8851	9769
75	10071	8705	9815
85	6473	4536	3598

Coefficients of Utilization - Zonal Cavity Method

Effective Floor Cavity Reflectance 0.20

RC	80				70				50			30			10			0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
0	111	111	111	111	108	108	108	108	101	101	101	95	95	95	89	89	89	87
1	101	97	93	89	98	94	90	87	88	85	83	83	81	79	78	76	75	72
2	92	85	78	73	89	82	76	71	77	72	68	73	69	65	69	66	63	60
3	84	74	67	61	81	72	65	59	68	62	57	64	59	55	61	57	53	51
4	77	66	58	52	74	64	57	51	61	54	49	58	52	48	55	50	46	44
5	71	59	51	45	69	58	50	44	55	48	43	52	46	41	49	44	40	38
6	66	53	45	39	63	52	44	39	49	43	38	47	41	37	45	40	36	33
7	61	48	40	35	59	47	40	34	45	38	33	43	37	33	41	36	32	30
8	57	44	36	31	55	43	36	31	41	35	30	40	34	29	38	33	29	27
9	53	41	33	28	51	40	33	28	38	32	27	37	31	26	35	30	26	24
10	50	38	30	25	48	37	30	25	35	29	25	34	28	24	33	27	24	22

Specifications subject to change without notice.

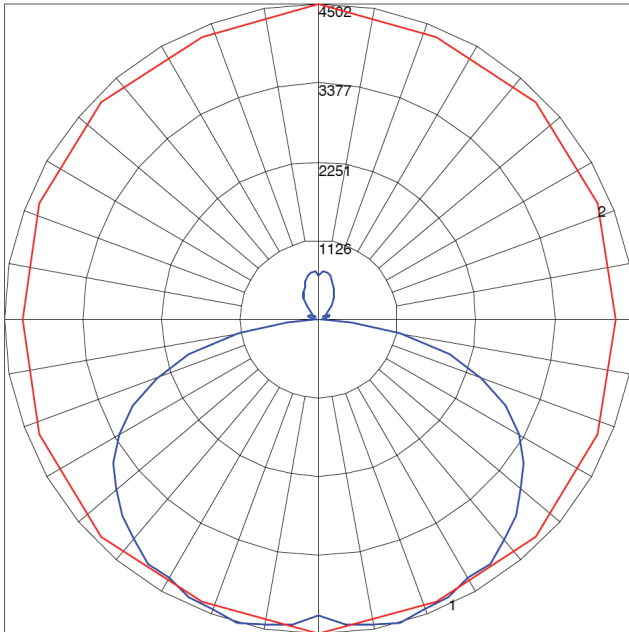
Highbay Fluorescent

5/29/2013

Photometric Data - 4 Lamp T5 (HIB YW 454A PSMV)
Wide High Efficiency 10% Uplight Distribution
White Reflector

Project:	
Catalog#:	
Approved by:	

Candela Polar Plot



Zonal Lumen Summary

Zone	Lumens	%Lamp	%Fixt
0-20	1650.3	8.30	9.20
0-30	3592.31	18.00	20.10
0-40	6073.94	30.40	34.00
0-60	11589.75	57.90	64.80
0-80	15741.35	78.70	88.00
0-90	16332.6	81.70	91.30
10-90	15916.2	79.60	89.00
20-40	4423.64	22.10	24.70
20-50	7179.52	35.90	40.20
40-70	7949.78	39.70	44.50
60-80	4151.6	20.80	23.20
70-80	1717.63	8.60	9.60
80-90	591.25	3.00	3.30
90-110	208.20	1.00	1.20
90-120	333.15	1.70	1.90
90-130	517.73	2.60	2.90
90-150	1046.12	5.20	5.90
90-180	1549.02	7.70	8.70
110-180	1340.82	6.70	7.50
0-180	17881.62	89.40	100.00

Test Report: HIB-YW-454 2012-01-24.IES

Spacing Criteria (0-180): 1.32
Spacing Criteria (90-270): 1.54
Spacing Criteria (Diagonal): 1.56

Maximum Candela =4502.23

Located At Horizontal Angle = 90, Vertical Angle = 15
1 - Vertical Plane Through Horizontal Angles (90 - 270) (Through Max. Cd.)
2 - Horizontal Cone Through Vertical Angle (15) (Through Max. Cd.)

Fixture Efficiency:
89.4%

Luminance Data (cd/Sq.m)

Angle In Degrees	Average 0-deg	Average 45-deg	Average 90-deg
45	9906	11232	12171
55	9853	11531	12922
65	9252	11921	13403
75	8889	11921	12531
85	8492	6264	5453

Coefficients of Utilization - Zonal Cavity Method

Effective Floor Cavity Reflectance 0.20																		
RC	80				70				50			30			10			0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
0	105	105	105	105	101	101	101	101	95	95	95	89	89	89	84	84	84	82
1	94	89	85	81	91	86	83	79	81	78	75	76	74	71	72	70	68	65
2	85	77	70	64	82	74	68	63	70	65	60	66	61	58	62	58	55	53
3	77	66	59	52	74	64	57	51	61	54	49	57	52	48	54	49	46	43
4	70	58	50	44	67	57	49	43	53	47	41	50	45	40	47	43	39	36
5	64	52	43	37	61	50	42	36	47	40	35	45	39	34	42	37	33	31
6	59	46	38	32	56	45	37	31	42	36	30	40	34	30	38	33	29	27
7	54	42	33	28	52	41	33	27	38	32	27	36	30	26	35	29	25	23
8	50	38	30	25	48	37	29	24	35	28	24	33	27	23	32	26	22	21
9	47	35	27	22	45	34	27	22	32	26	21	31	25	21	29	24	20	18
10	44	32	25	20	42	31	24	19	30	23	19	28	23	19	27	22	18	16

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