



PHONE: (303) 442-1255 • FAX: (970) 535-3114 • E-MAIL: itl@itlboulder.com • WEBSITE: www.itlboulder.com



INDEPENDENT TESTING LABORATORIES, INC.
4066 CAMELOT CIRCLE, LONGMONT, CO 80504 USA

REPORT NUMBER: ITL90353-GONIOPHOTOMETRY

PAGE: 1 OF 7

ISSUE DATE: 04/03/18

PREPARED FOR: FINELITE, INC.

ADDRESS: 30500 WHIPPLE ROAD

UNION CITY, CA 94587

CATALOG NUMBER: HP-4-ID-RG-4ft-V-V-835-TG-F

LUMINAIRE: EXTRUDED WHITE PAINTED METAL HOUSING WITH WHITE PAINTED FLAT METAL END CAPS AND 2 DISTINCT OPTICAL COMPARTMENTS, TOP OPTICAL COMPARTMENT CONSISTS OF: 2-PIECE WHITE PAINTED METAL CIRCUIT BOARD MOUNT, 3 WHITE CIRCUIT BOARDS WITH A TOTAL OF 160 LEDS, EXTRUDED TRANSLUCENT WHITE FROSTED PLASTIC DIFFUSER. BOTTOM COMPARTMENT CONSISTS OF: FORMED WHITE PAINTED METAL REFLECTOR/CIRCUIT BOARD MOUNT, 2 WHITE CIRCUIT BOARDS EACH WITH 80 LEDS, EXTRUDED TRANSLUCENT WHITE FROSTED PLASTIC REGRESSED DIFFUSER. DIFFUSERS FROSTED BOTH SIDES.

LAMPS: THREE HUNDRED TWENTY WHITE LIGHT EMITTING DIODES (LEDS), 160 VERTICAL BASE-UP POSITION, 160 VERTICAL BASE-DOWN POSITION.

INPUT ELECTRICAL: 277.0 VOLTS, 74.6 WATTS, 0.280 AMPS

MOUNTING: SUSPENDED

LED DRIVERS: TWO OSRAM OTi 50/120-277/1A4 DIM L, DRIVERS HAVE MULTIPLE LEADS, ONLY LINE INPUT AND LED OUTPUT LEADS CONNECTED FOR THIS TEST, CLIENT STATES EACH DRIVER PROGRAMMED FOR 700mA OUTPUT.

NOTE: DATA SHOWN IS ABSOLUTE FOR THE SAMPLE PROVIDED AT RATED INPUT VOLTAGE (277VAC, 60Hz) TO THE DRIVERS.

TEST PROCEDURE: IESNA LM-79-08

TEST DISTANCE = 35.0 FEET

THIS REPORT WITH THE USE OF THE NVLAP LOGO SHALL NOT BE USED BY THE CLIENT TO CLAIM PRODUCT CERTIFICATION, APPROVAL, OR ENDORSEMENT BY NVLAP, NIST, OR ANY AGENCY OF THE FEDERAL GOVERNMENT.



Checked M KLOPF
Approved N WHITE

REPORT NUMBER: ITL90353-GONIOPHOTOMETRY

PAGE: 2 OF 7

ISSUE DATE: 04/03/18

PREPARED FOR: FINELITE, INC.

CATALOG NUMBER: HP-4 ID-RG-4'-V-V-835-F-277V-X-X-X-X

CANDELA DISTRIBUTION

	0.0	22.5	45.0	67.5	90.0
0	1507	1507	1507	1507	1507
5	1497	1496	1496	1497	1498
15	1429	1419	1418	1410	1400
25	1293	1276	1259	1237	1227
35	1109	1087	1053	1020	1003
45	902	871	824	780	764
55	682	645	588	541	525
65	457	418	358	313	299
75	244	203	151	120	115
85	60	36	33	32	31
90	0	0	0	0	0
95	75	78	81	84	85
105	276	281	287	293	293
115	514	516	523	528	526
125	765	764	768	772	774
135	1010	1003	1011	1016	1016
145	1241	1227	1240	1239	1237
155	1434	1421	1433	1431	1426
165	1574	1566	1571	1568	1565
175	1646	1646	1646	1645	1645
180	1656	1656	1656	1656	1656

FLUX

142
398
579
659
638
532
364
178
43
91
303
516
687
779
773
658
442
156

ZONAL LUMEN SUMMARY

ZONE	LUMENS	%FIXT
0- 30	1119	14.1
0- 40	1778	22.4
0- 60	2947	37.1
0- 90	3531	44.5
90-120	911	11.5
90-130	1598	20.1
90-150	3150	39.7
90-180	4406	55.5
0-180	7937	100.0

EFFICACY (277) = 106.4 lm/W

EFFICACY (120) = 108.4 lm/W **

** THE EFFICACY AT 120 VOLTS IS BASED ON THE LUMENS FROM THIS REPORT AND THE WATTAGE MEASURED AT 120 VOLTS FROM ITL REPORT NUMBER ITL90353-THD.

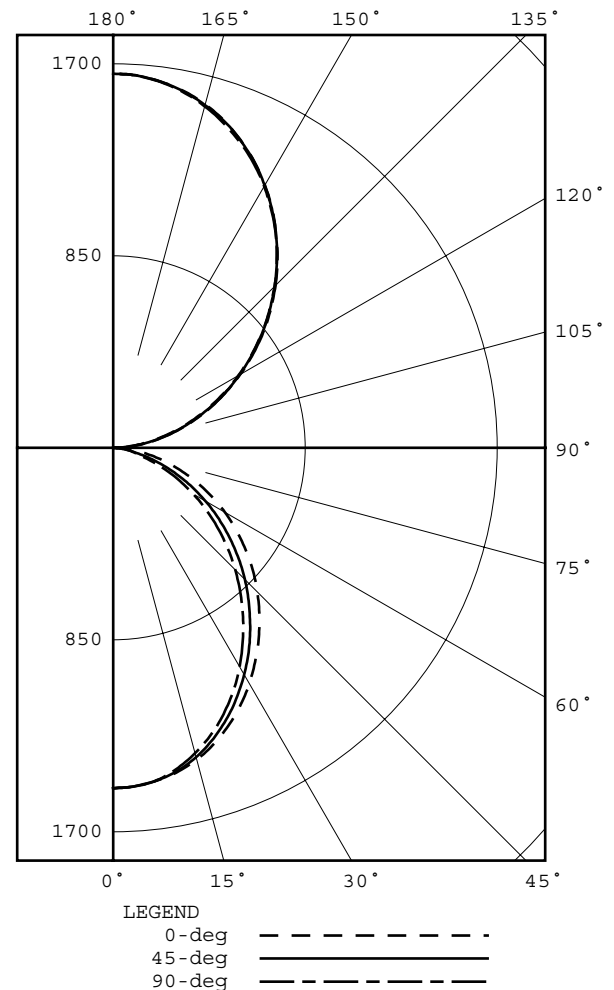
CIE TYPE - GENERAL DIFFUSE

PLANE : 0-DEG 90-DEG

SPACING CRITERIA : 1.19 1.12

BEAM ANGLE (50%) : 104.9 X 105.7 DEGREES

FIELD ANGLE (10%) : 160.4 X 161.9 DEGREES





itl boulder
THE LIGHT CENTER OF THE INDUSTRY SINCE 1955



INDEPENDENT TESTING LABORATORIES, INC.
4066 CAMELOT CIRCLE, LONGMONT, CO 80504 USA

PHONE: (303) 442-1255 • FAX: (970) 535-3114 • E-MAIL: itl@itlboulder.com • WEBSITE: www.itlboulder.com

REPORT NUMBER: ITL90353-GONIOPHOTOMETRY

PAGE: 3 OF 7

ISSUE DATE: 04/03/18

PREPARED FOR: FINELITE, INC.

CATALOG NUMBER: HP-4 ID-RG-4'-V-V-835-F-277V-X-X-X-X

PLANE : 0-DEG 90-DEG
LUMINOUS LENGTH : 48.000 3.938

LUMINANCE DATA IN CANDELA/SQ M				
ANGLE	AVERAGE	AVERAGE	AVERAGE	
IN DEG	0-DEG	45-DEG	90-DEG	
45	10461.	9557.	8861.	
55	9751.	8407.	7507.	
65	8868.	6947.	5802.	
75	7732.	4785.	3644.	
85	5646.	3105.	2917.	



PHONE: (303) 442-1255 • FAX: (970) 535-3114 • E-MAIL: itl@itlboulder.com • WEBSITE: www.itlboulder.com

REPORT NUMBER: ITL90353-GONIOPHOTOMETRY

PAGE: 4 OF 7

ISSUE DATE: 04/03/18

PREPARED FOR: FINELITE, INC.

CATALOG NUMBER: HP-4 ID-RG-4'-V-V-835-F-277V-X-X-X-X

CANDELA DISTRIBUTION
LATERAL ANGLE

	0.0	22.5	45.0	67.5	90.0
0.0	1507	1507	1507	1507	1507
5.0	1497	1496	1496	1497	1498
10.0	1472	1467	1469	1466	1462
15.0	1429	1419	1418	1410	1400
20.0	1368	1354	1346	1331	1322
25.0	1293	1276	1259	1237	1227
30.0	1205	1186	1160	1133	1120
35.0	1109	1087	1053	1020	1003
40.0	1007	981	938	901	884
45.0	902	871	824	780	764
50.0	794	758	706	659	643
55.0	682	645	588	541	525
60.0	571	531	472	425	409
65.0	457	418	358	313	299
70.0	347	307	249	208	196
75.0	244	203	151	120	115
80.0	146	109	78	75	75
85.0	60	36	33	32	31
90.0	0	0	0	0	0
95.0	75	78	81	84	85
100.0	170	174	180	185	185
105.0	276	281	287	293	293
110.0	392	395	401	407	407
115.0	514	516	523	528	526
120.0	639	639	645	648	649
125.0	765	764	768	772	774
130.0	889	886	891	895	897
135.0	1010	1003	1011	1016	1016
140.0	1126	1117	1129	1129	1131
145.0	1241	1227	1240	1239	1237
150.0	1343	1328	1341	1339	1337
155.0	1434	1421	1433	1431	1426
160.0	1512	1501	1511	1506	1501
165.0	1574	1566	1571	1568	1565
170.0	1619	1616	1617	1616	1614
175.0	1646	1646	1646	1645	1645
180.0	1656	1656	1656	1656	1656



INDEPENDENT TESTING LABORATORIES, INC.
4066 CAMELOT CIRCLE, LONGMONT, CO 80504 USA

PHONE: (303) 442-1255 • FAX: (970) 535-3114 • E-MAIL: itl@itlboulder.com • WEBSITE: www.itlboulder.com

REPORT NUMBER: ITL90353-GONIOPHOTOMETRY

PAGE: 5 OF 7

ISSUE DATE: 04/03/18

PREPARED FOR: FINELITE, INC.

CATALOG NUMBER: HP-4 ID-RG-4'-V-V-835-F-277V-X-X-X-X

5-DEGREE
ZONAL LUMEN SUMMARY

0- 5	36
5- 10	106
10- 15	171
15- 20	227
20- 25	273
25- 30	306
30- 35	326
35- 40	333
40- 45	327
45- 50	311
50- 55	283
55- 60	248
60- 65	205
65- 70	158
70- 75	110
75- 80	68
80- 85	35
85- 90	8
90- 95	21
95-100	70
100-105	124
105-110	179
110-115	233
115-120	283
120-125	326
125-130	361
130-135	384
135-140	395
140-145	394
145-150	379
150-155	350
155-160	308
160-165	253
165-170	189
170-175	117
175-180	39

10-DEGREE
ZONAL LUMEN SUMMARY

0- 10	142
0- 20	540
0- 30	1119
0- 40	1778
0- 50	2415
0- 60	2947
0- 70	3310
0- 80	3488
0- 90	3531
0-100	3622
0-110	3926
0-120	4442
0-130	5129
0-140	5908
0-150	6681
0-160	7339
0-170	7781
0-180	7937



REPORT NUMBER: ITL90353-GONIOPHOTOMETRY

PAGE: 6 OF 7

ISSUE DATE: 04/03/18

PREPARED FOR: FINELITE, INC.

CATALOG NUMBER: HP-4 ID-RG-4'-V-V-835-F-277V-X-X-X-X

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	106	106	106	106	97	97	97	97	80	80	80	65	65	65	51	51	51	44
1	97	93	89	86	89	85	82	79	71	69	66	58	56	55	46	45	44	38
2	88	81	75	70	81	75	70	65	62	59	55	51	48	46	40	39	37	32
3	81	72	64	59	74	66	60	55	55	51	47	45	42	39	36	34	32	28
4	74	63	56	50	67	58	52	47	49	44	40	40	37	34	32	30	28	24
5	68	57	49	43	62	52	45	40	44	39	35	36	32	29	29	26	24	21
6	63	51	43	37	57	47	40	35	40	34	30	33	29	26	26	24	21	18
7	58	46	38	33	53	42	36	31	36	31	27	30	26	23	24	21	19	16
8	54	42	34	29	49	39	32	27	33	27	24	27	23	20	22	19	17	15
9	50	38	31	26	46	35	29	24	30	25	21	25	21	18	21	18	15	13
10	47	35	28	23	43	32	26	22	28	23	19	23	19	17	19	16	14	12

ALL CANDELA, LUMENS, LUMINANCE, AND VCP VALUES IN THIS REPORT ARE BASED ON ABSOLUTE PHOTOMETRY. THE COEFFICIENT OF UTILIZATION VALUES ARE BASED ON THE TOTAL ABSOLUTE LUMEN OUTPUT OF THIS TEST SAMPLE.



REPORT NUMBER: ITL90353-GONIOPHOTOMETRY

PAGE: 7 OF 7

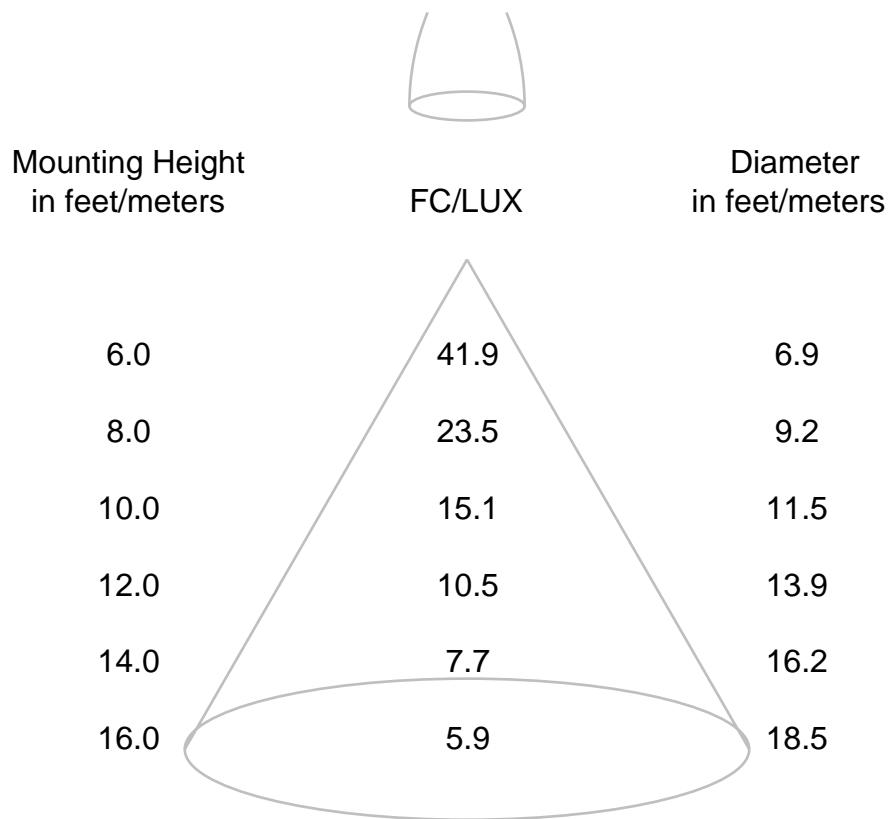
ISSUE DATE: 04/03/18

PREPARED FOR: FINELITE, INC.

CATALOG NUMBER: HP-4 ID-RG-4'-V-V-835-F-277V-X-X-X-X

CONE OF LIGHT DIAGRAM

(diameter shown is where fc/lux value is half the fc/lux at nadir)



If distances are feet, results are footcandles.
If distances are meters, results are lux.

Note: The candela values used to generate this diagram were obtained by averaging the photometric data into a single plane.