



Report Number: REP-112024-05

LM-79-08 Luminaire Photometric Report

Device Under Test

Finelite Inc.
HP3-P-ID-4'-V-V-835-ASY-F
HP3-P-ID Series

Report Date

11/20/2024

Goniophotometric Examination

KPL2008-103
8/22/2024

Examined By:
Laura Robertson

Approved By:
Joe Guarino

Spectroradiometric Examination

CCT5636
08-19-2024

Examined By:
Laura Robertson

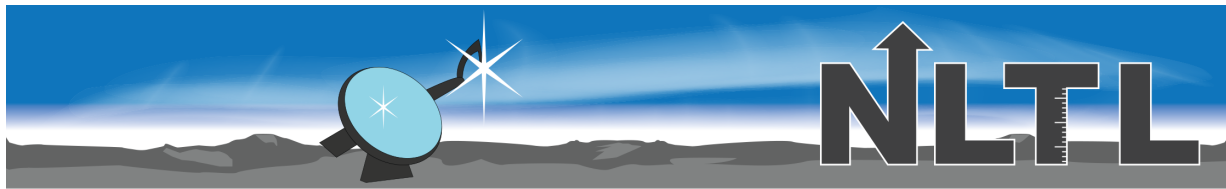
Approved By:
Joe Guarino

Northern Lights Testing Laboratories certifies that the attached reports have been independently produced in accordance with IESNA LM-79-08, Approved Method: Electric and Photometric Measurement of Solid-State Lighting Products. Photometric measurements are taken using an Integrating Sphere system and Type C goniophotometer for measuring total luminous flux, luminous intensity distribution, and color spatial uniformity. Products tested are operated in the intended orientation in application. All test equipment is calibrated regularly with standards traceable to NIST, and in accordance with ISO17025-2005 procedures. Northern Lights Testing Laboratories is an Accredited Organization, accredited by the International Accreditation Service, Inc. (IAS) to ISO/IEC 17025-2005. IAS is an ILAC-MRA Signatory Testing, Calibration, Inspection. Northern Lights Testing Laboratories is an Approved Lab Partner and is on the LED Lighting Facts Approved Labs List.



IAS Accreditation No. TL-479





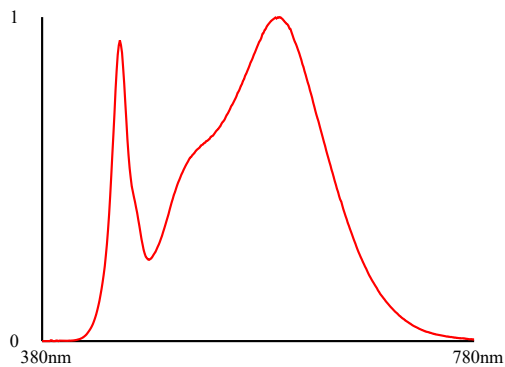
NORTHERN LIGHTS TESTING LABORATORIES

Spectral Results

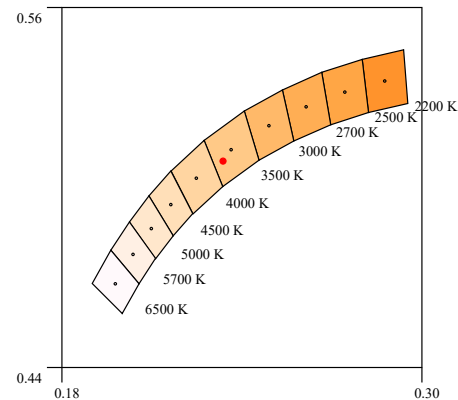
CCT: 3592 K
xy Coordinates: 0.3998 , 0.3868
u'v' Coordinates: 0.2337, 0.5088
Delta u'v': -0.00049

Luminous Flux: 9255.9 lm
Radiant Flux: 20.56734 W
Electrical Power: 68.75 W
Efficacy: 134.7 lm/W
Melanopic Flux: 5871 mel lm
Melanopic Ratio: 0.63

Spectral Power Distribution



CIE u'v' (1976)



Color Rendering Index

Ra	R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14	R15
83	82	91	96	82	82	89	84	61	6	80	82	66	85	98	75



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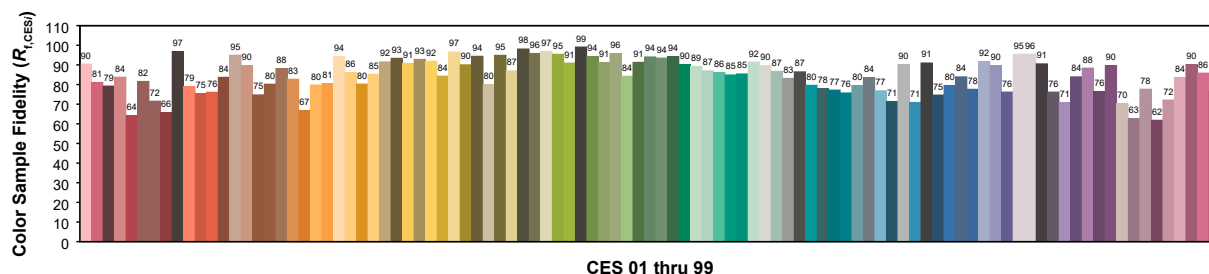
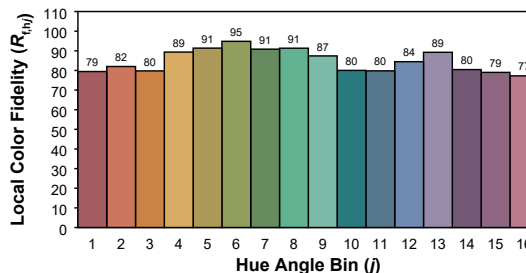
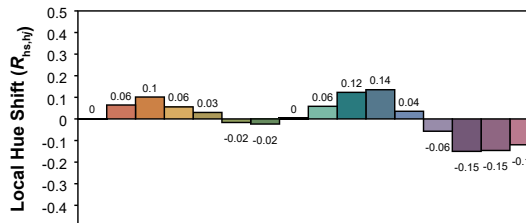
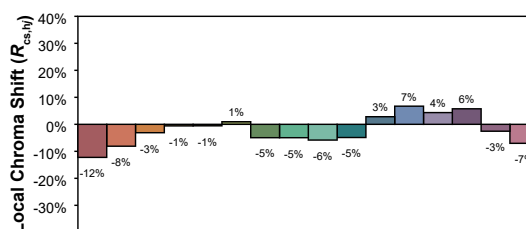
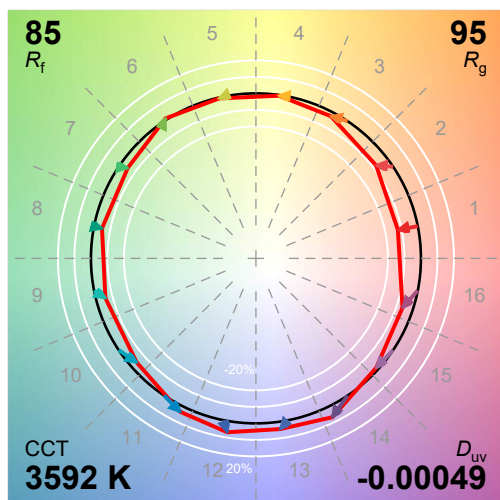
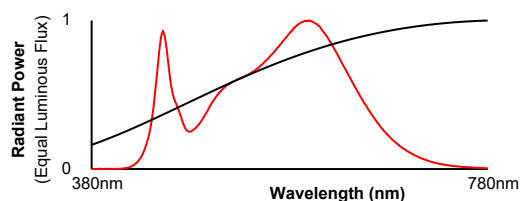
IES TM-30-18 Color Rendition Report

Source: HP3-P-ID-4'-V-V-835-ASY-F

Date: 08-19-2024

Manufacturer: Finelite, Inc.

Model: HP3 (REF# 23050191)



CES 01 thru 99

x: 0.3998

y: 0.3868

u': 0.2337

v': 0.5088

CIE 13.3 1995

CRI Ra: 83

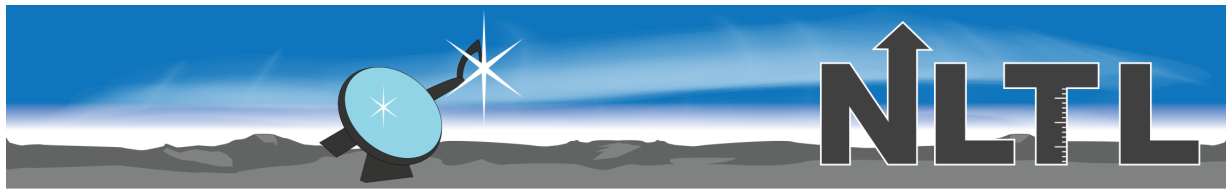
CRI R9: 6

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P: 262-891-9700

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NORTHERN LIGHTS TESTING LABORATORIES

Performance Summary

Input

Watts	68.75 W
Number of Lamps	320
Lumens per Lamp	N/A
Total Lamp Lumens	N/A

Output

Output Lumens	9255.9 lm
Efficiency	N/A %
Efficacy	134.63 lm/W

Luminous Dimensions

Length	0.25 ft
Width	4 ft
Height	0 ft

Roadway CU

Mounting Heights	1	2	4	6	8	10
House Side CU	0.15	0.19	0.20	0.20	0.20	0.20
Street Side CU	0.15	0.19	0.20	0.20	0.20	0.20

Spacing Criterion

Two luminaires, 0°-180° plane	1.17
Two luminaires, 90°-270° plane	1.11
Four luminaires, diagonal	1.24

Full Beam Angle

0°-180° plane	98.33°
90°-270° plane	91.48°

Roadway Summary

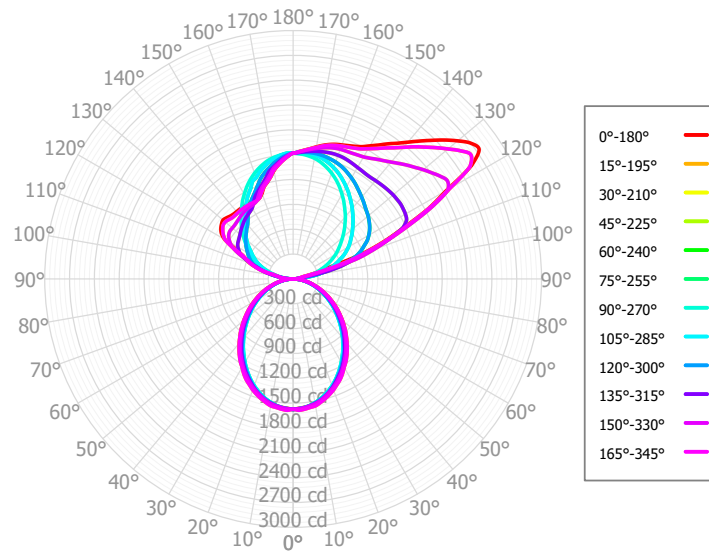
IESNA lateral classification	Type I
IESNA vertical classification	Undefined (Very Short)
Cutoff classification	Noncutoff
IESNA TM-15-11 BUG Rating	B2 U5 G1
Maximum Candela	2740.53 cd 0° horizontal 125° vertical
Street side total	20.4%
House side total	20.4%

Luminaire Luminance

	0.00°	45.00°	90.00°
0.00°	17023	17023	17023
45.00°	13654	13031	12398
55.00°	12422	11704	11104
65.00°	11218	10542	9973
75.00°	10010	9327	9000
85.00°	8998	8445	7912



Candela Polar Plot

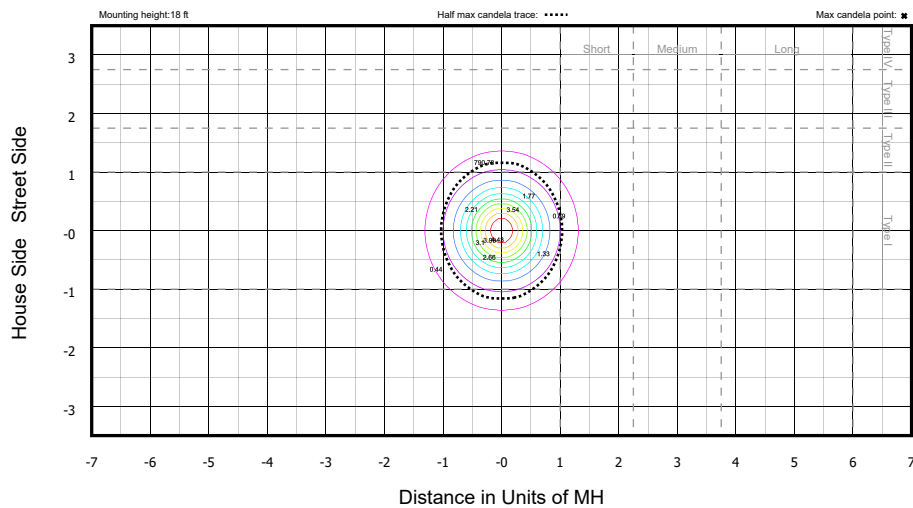


Zonal Lumen Summary

Zone	Lumens	% Fixture	Zone	Lumens	% Fixture
0.00° - 20.00°	564	6%	60.00° - 80.00°	648	7%
0.00° - 30.00°	1162	13%	70.00° - 80.00°	239	3%
0.00° - 40.00°	1841	20%	80.00° - 90.00°	77	1%
0.00° - 60.00°	3054	33%	90.00° - 110.00°	528	6%
0.00° - 80.00°	3702	40%	90.00° - 120.00°	1424	15%
0.00° - 90.00°	3779	41%	90.00° - 130.00°	2530	27%
10.00° - 90.00°	3629	39%	90.00° - 150.00°	4310	47%
20.00° - 40.00°	1276	14%	90.00° - 180.00°	5477	59%
20.00° - 50.00°	1933	21%	110.00° - 180.00°	4949	53%
40.00° - 70.00°	1622	18%	0.00° - 180.00°	9256	100%

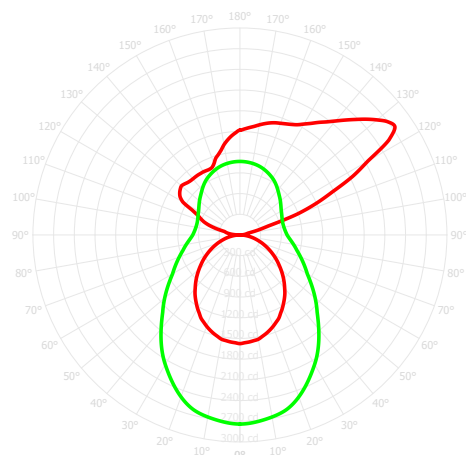
NORTHERN LIGHTS TESTING LABORATORIES

Iso-Illuminance

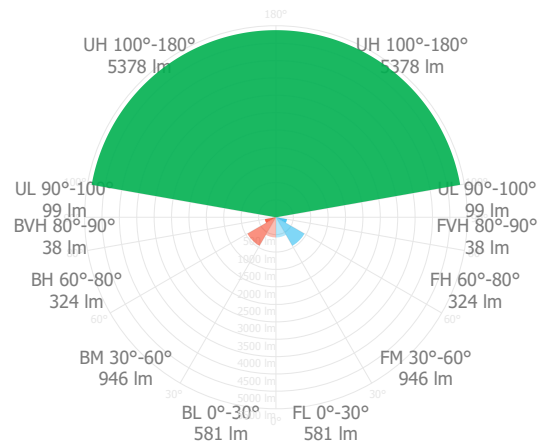


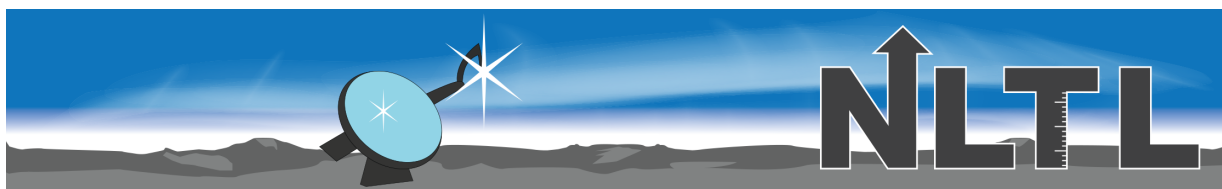
Peak Intensity Plane and Cone

Maximum Candela = 2740.53 cd
0° horizontal, 125° vertical



IES TM-15-11 LCS Plot





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Candela Table

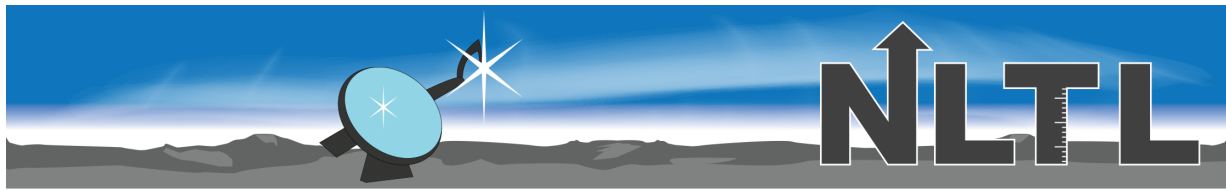
	0.00°	15.00°	30.00°	45.00°	60.00°	75.00°	90.00°	105.00°	120.00°	135.00°	150.00°	165.00°	180.00°	195.00°	210.00°	225.00°	240
0.00°	1574.80	1574.80	1574.80	1574.80	1574.80	1574.80	1574.80	1574.80	1574.80	1574.80	1574.80	1574.80	1574.80	1574.80	1574.80	1574.80	1574.80
2.50°	1564.02	1587.51	1568.25	1569.12	1570.49	1568.19	1572.79	1568.19	1570.49	1569.12	1568.25	1587.51	1564.02	1587.51	1568.25	1569.12	1570.49
5.00°	1556.48	1579.52	1560.20	1560.48	1560.58	1558.34	1562.72	1558.34	1560.58	1560.48	1560.20	1579.52	1556.48	1579.52	1560.20	1560.48	1560.58
7.50°	1544.99	1566.17	1546.51	1545.26	1544.93	1541.92	1545.75	1541.92	1544.93	1545.26	1546.51	1566.17	1544.99	1566.17	1546.51	1545.26	1544.93
10.00°	1534.58	1556.09	1531.36	1525.61	1523.25	1518.22	1522.21	1518.22	1523.25	1525.61	1531.36	1556.09	1534.58	1556.09	1531.36	1525.61	1523.25
12.50°	1505.13	1528.07	1505.90	1505.73	1495.12	1489.81	1491.78	1489.81	1495.12	1505.73	1505.90	1528.07	1505.13	1528.07	1505.90	1505.73	1495.12
15.00°	1476.78	1497.04	1473.65	1473.38	1464.69	1455.60	1457.08	1455.60	1464.69	1473.38	1473.65	1497.04	1476.78	1497.04	1473.65	1473.38	1464.69
17.50°	1444.37	1462.82	1438.63	1434.41	1430.42	1415.47	1417.23	1415.47	1430.42	1434.41	1438.63	1462.82	1444.37	1462.82	1438.63	1434.41	1430.42
20.00°	1408.80	1425.88	1401.52	1391.61	1387.07	1373.61	1373.43	1373.61	1387.07	1391.61	1401.52	1425.88	1408.80	1425.88	1401.52	1391.61	1387.07
22.50°	1369.71	1382.25	1359.21	1345.47	1336.44	1326.91	1325.38	1326.91	1336.44	1345.47	1359.21	1382.25	1369.71	1382.25	1359.21	1345.47	1336.44
25.00°	1332.39	1341.42	1313.06	1298.28	1284.33	1274.53	1274.59	1274.53	1284.33	1298.28	1313.06	1341.42	1332.39	1341.42	1313.06	1298.28	1284.33
27.50°	1277.44	1290.51	1265.50	1249.84	1233.37	1221.88	1217.55	1221.88	1233.37	1249.84	1265.50	1290.51	1277.44	1290.51	1265.50	1249.84	1233.37
30.00°	1228.61	1232.27	1212.25	1196.58	1177.48	1165.38	1161.83	1165.38	1177.48	1196.58	1212.25	1232.27	1228.61	1232.27	1212.25	1196.58	1177.48
32.50°	1175.52	1185.59	1155.81	1143.28	1121.48	1108.29	1103.15	1108.29	1121.48	1143.28	1155.81	1185.59	1175.52	1185.59	1155.81	1143.28	1121.48
35.00°	1123.73	1130.57	1103.48	1083.83	1073.43	1048.91	1047.21	1048.91	1073.43	1083.83	1103.48	1130.57	1123.73	1130.57	1103.48	1083.83	1073.43
37.50°	1069.43	1071.68	1046.44	1025.97	1004.95	990.72	986.67	990.72	1004.95	1025.97	1046.44	1071.68	1069.43	1071.68	1046.44	1025.97	1004.95
40.00°	1008.46	1012.62	987.71	966.31	946.22	932.54	926.46	932.54	946.22	966.31	987.71	1012.62	1008.46	1012.62	987.71	966.31	946.22
42.50°	951.09	952.24	928.43	909.33	888.26	874.57	868.44	874.57	888.26	909.33	928.43	952.24	951.09	952.24	928.43	909.33	888.26
45.00°	893.18	895.05	869.98	852.41	828.60	815.24	810.97	815.24	828.60	852.41	869.98	895.05	893.18	895.05	869.98	852.41	828.60
47.50°	833.63	833.63	812.17	793.07	770.52	756.95	752.84	756.95	770.52	793.07	812.17	833.63	833.63	833.63	812.17	793.07	770.52
50.00°	773.75	775.72	751.91	734.01	711.90	700.73	695.81	700.73	711.90	734.01	751.91	775.72	773.75	775.72	751.91	734.01	711.90
52.50°	714.42	716.55	694.00	677.03	657.65	645.01	641.95	645.01	657.65	677.03	694.00	716.55	714.42	716.55	694.00	677.03	657.65
55.00°	659.13	658.09	639.04	621.04	604.56	595.36	589.18	595.36	604.56	621.04	639.04	658.09	659.13	658.09	639.04	621.04	604.56
57.50°	603.19	598.76	581.52	566.96	551.03	540.08	536.30	540.08	551.03	566.96	581.52	598.76	603.19	598.76	581.52	566.96	551.03
60.00°	546.27	542.49	528.59	511.89	498.10	489.12	484.96	489.12	498.10	511.89	528.59	542.49	546.27	542.49	528.59	511.89	498.10
62.50°	492.41	488.90	475.44	459.48	443.79	438.05	435.73	438.05	443.79	459.48	475.44	488.90	492.41	488.90	475.44	459.48	443.79
65.00°	438.59	434.85	424.27	412.16	397.81	393.07	389.89	393.07	397.81	412.16	424.27	434.85	438.59	434.85	424.27	412.16	397.81
67.50°	385.54	383.35	373.65	361.25	351.01	346.41	344.27	346.41	351.01	361.25	373.65	383.35	385.54	383.35	373.65	361.25	351.01
70.00°	337.00	333.49	322.66	314.81	307.12	301.30	300.04	301.30	307.12	314.81	322.66	333.49	337.00	333.49	322.66	314.81	307.12
72.50°	285.86	277.30	276.45	268.04	260.85	257.00	256.24	257.00	260.85	268.04	276.45	277.30	285.86	277.30	276.45	268.04	260.85
75.00°	239.68	237.42	231.29	223.31	220.39	215.10	215.49	215.10	220.39	223.31	231.29	237.42	239.68	237.42	231.29	223.31	220.39
77.50°	196.72	193.38	187.60	181.76	178.62	174.79	175.07	174.79	178.62	181.76	187.60	193.38	196.72	193.38	187.60	181.76	178.62
80.00°	153.39	150.80	145.99	143.39	139.48	137.48	136.33	137.48	139.48	143.39	145.99	150.80	153.39	150.80	145.99	143.39	139.48
82.50°	111.97	110.72	108.79	106.16	104.53	103.18	106.71	103.18	104.53	106.16	108.79	110.72	111.97	110.72	108.79	106.16	104.53
85.00°	72.55	71.26	68.72	68.09	66.92	65.57	63.79	65.57	66.92	68.09	68.72	71.26	72.55	71.26	68.72	68.09	66.92

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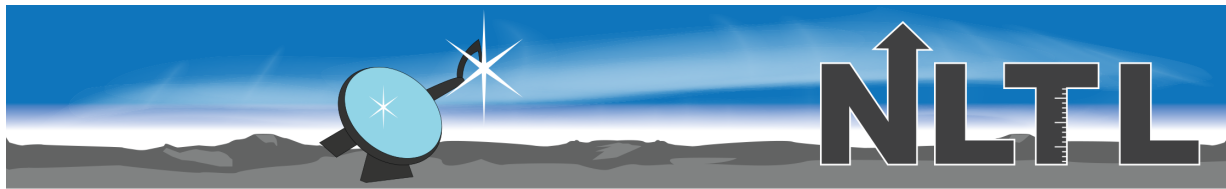
Coefficients of Utilization – Zonal Cavity Method

Values are lumens delivered to the workplane.

	pfc	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%	0.00%
	pcc	80.00%	80.00%	80.00%	70.00%	70.00%	70.00%	50.00%	50.00%	30.00%	30.00%	30.00%	10.00%	10.00%	10.00%	0.00%
	pw	70.00%	50.00%	30.00%	70.00%	50.00%	30.00%	50.00%	30.00%	50.00%	30.00%	0.00%	50.00%	30.00%	10.00%	0.00%
	0.00	9715	9715	9715	8852	8852	8852	7242	7242	5768	5768	5768	4415	4415	4415	3779
	1.00	8864	8468	8114	8062	7729	7429	6346	6135	5075	4933	4740	3903	3814	3730	3187
	2.00	8076	7404	6849	7336	6767	6291	5569	5228	4465	4229	3928	3444	3290	3152	2682
	3.00	7371	6513	5850	6690	5960	5387	4918	4499	3954	3659	3301	3060	2862	2693	2282
	4.00	6744	5766	5050	6121	5284	4661	4373	3911	3528	3196	2812	2741	2515	2328	1968
RCR	5.00	6190	5137	4401	5620	4714	4070	3914	3430	3169	2817	2424	2474	2230	2035	1717
	6.00	5700	4605	3869	5179	4232	3585	3526	3034	2866	2504	2112	2248	1995	1796	1514
	7.00	5267	4152	3429	4789	3822	3183	3195	2704	2607	2242	1858	2056	1797	1599	1348
	8.00	4884	3765	3061	4446	3471	2846	2911	2427	2385	2022	1649	1890	1630	1436	1210
	9.00	4545	3433	2752	4141	3170	2563	2667	2193	2193	1835	1475	1747	1488	1298	1094
	10.00	4243	3146	2489	3871	2909	2322	2455	1993	2026	1675	1328	1621	1366	1181	997

Cone of Light

Mounting Height	Beam Center Light Level	0°-180° Beam Width	90°-270° Beam Width
8 ft	25 fc	19 ft	16 ft
10 ft	16 fc	23 ft	21 ft
12 ft	11 fc	28 ft	25 ft
14 ft	8 fc	32 ft	29 ft
20 ft	4 fc	46 ft	41 ft
25 ft	3 fc	58 ft	51 ft
30 ft	2 fc	69 ft	62 ft



NORTHERN LIGHTS TESTING LABORATORIES

Integrating Sphere Information:

Sphere Equipment:

SL-300 Integrating Sphere

Yokogawa WT210 - Power Meter

Thermo Recorder TR-71W

Chroma 6408, AC power source

Calibration Due: 8/23/2024

Sphere Test:

Output test: HP3-P-ID-4'-V-V-835-ASY-F

24.3°C, 42RH%

276.95 Vac, 68.75W

Stable per LM-79 Standard

Spectrum Range: 380-780 nm

Scan Step: 1 nm

Test Info

Manufacturer - Finlite, Inc.

Model: HP3-P-ID-4'-V-V-835-ASY-F

Sample: HP3-P-ID-4'-V-V-835-ASY-F

Test Info

Model: HP3 (REF# 23050191)

Sample: HP3-P-ID-4'-V-V-835-ASY-F

Manufacturer: Finelite, Inc.

Test Date: 08-19-2024

Temperature: 24.3° C

Humidity: 42%

Spectrum Range: 380 - 780 nm

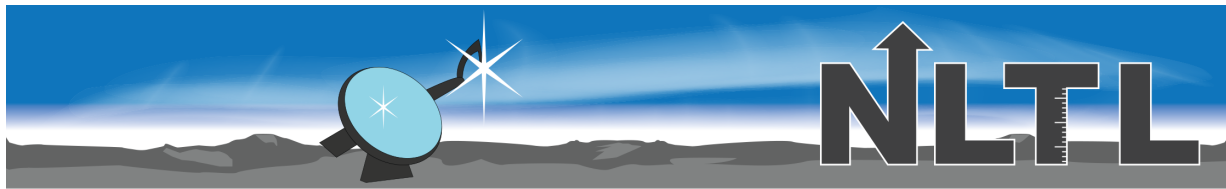
Scan Step: 1 nm

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NORTHERN LIGHTS TESTING LABORATORIES

Goniometry Information:

Goniometer Equipment:

GMS2000 Type C Goniophotometer

Yokogawa WT210 - Power meter

(x3) J Type Thermocouples/Agilent 34970A data acquisition unit

GW Instek APS-7100E - AC power source

Calibration Due: 8/31/2024

Goniometer Test:

Distribution Test: HP3-P-ID-4'-V-V-835-ASY-F

24.3 °C, 42RH%

276.95 Vac, 68.75W

Stable per LM-79 Standard