

Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269



Scaled data based on original data using
LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-
State Lighting Products

Test Report Prepared for
Cooper Lighting Solutions

Brand: NEO-RAY

Report Number: P926108

Luminaire Tested: DFN2DIP-TR2F0-030D030US950-FLLFLL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P926108
REPORT IS A COMBINATION OF REPORTS P900233 AND P897145
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-TR2F0-030D030US950-FLLFLL
Description: 2 foot, Triangle Define Geo, with Direct Frosted Lens, Indirect Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

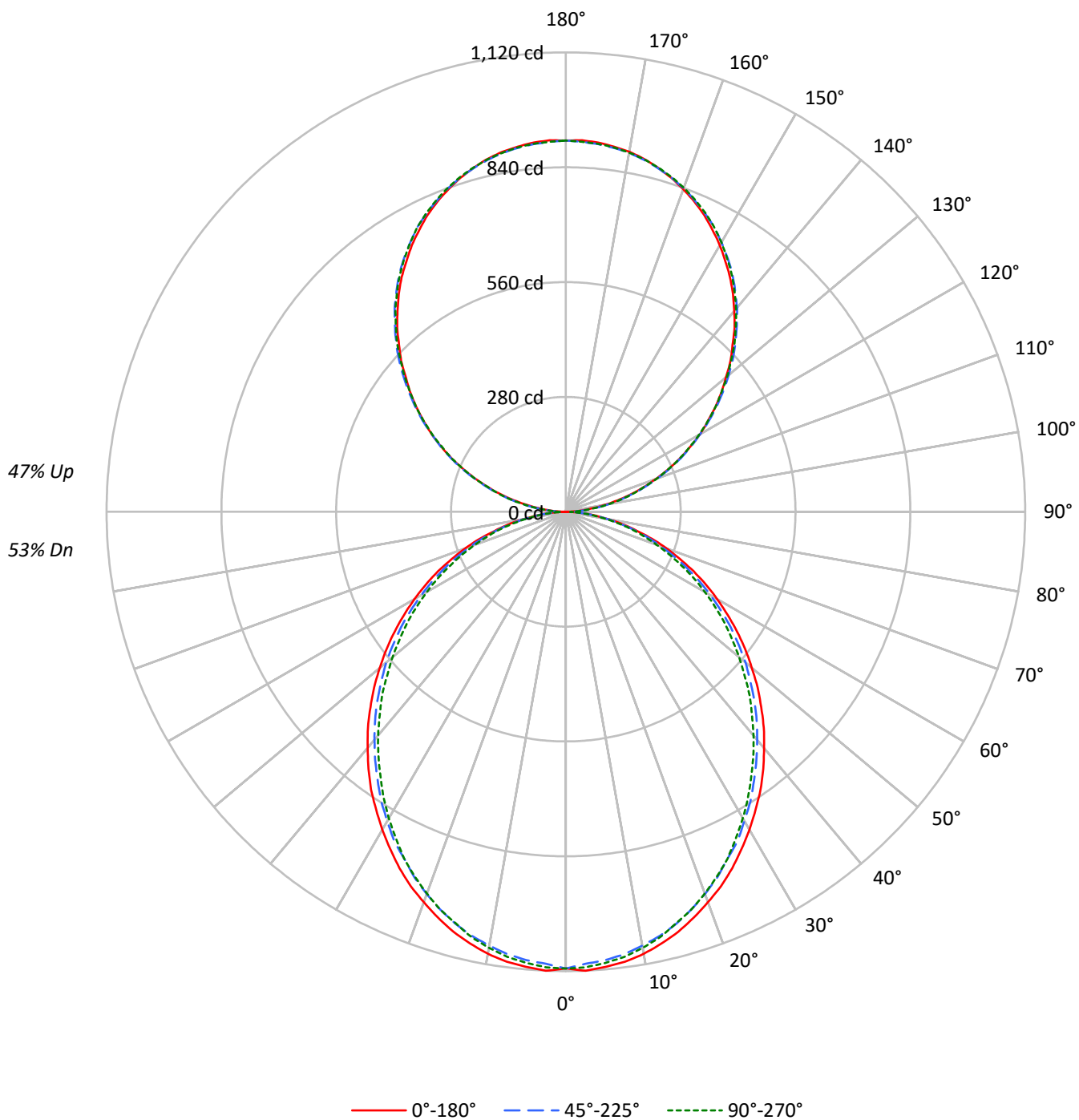
Lumens per Lamp: N/A
Luminaire Lumens: 5366.2 lumens
Efficiency: N/A
Efficacy: 114.2 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular w/ Sides (W: 2.04' x L: 2.36' x H: 0.1')
CIE Type: General Diffuse

Input Watts (W): 47
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9951
Total Harmonic Distortion (THDi): 0.07
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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Luminous Intensity Polar Plot



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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20					20					20					20					20
RC	80					70					50					30					10
RW	70	50	30	10		70	50	30	10		50	30	10		50	30	10		50	30	10
RCR																					
0	108	108	108	108		100	100	100	100		85	85	85		71	71	71		59	59	59
1	98	94	90	87		91	87	84	81		74	72	70		63	61	59		52	51	50
2	90	82	76	71		83	76	71	66		65	61	58		55	52	50		46	44	42
3	82	72	65	59		75	67	61	55		58	53	49		49	45	42		41	38	36
4	75	64	56	50		69	60	52	47		51	46	41		43	39	36		36	33	31
5	69	57	49	43		63	53	46	40		46	40	36		39	35	31		33	29	27
6	63	51	43	37		58	48	40	35		41	36	31		35	31	27		30	26	24
7	59	46	38	33		54	43	36	31		37	32	28		32	28	24		27	24	21
8	54	42	34	29		50	39	32	27		34	29	24		29	25	22		25	21	19
9	51	38	31	26		47	36	29	24		31	26	22		27	23	19		23	20	17
10	47	35	28	23		44	33	26	22		29	23	20		25	21	18		21	18	15

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2484	2484	2484
5°	2484	2444	2461
10°	2460	2405	2424
15°	2420	2360	2367
20°	2368	2300	2310
25°	2315	2228	2244
30°	2251	2162	2162
35°	2189	2084	2075
40°	2114	2005	1992
45°	2038	1926	1906
50°	1956	1842	1808
55°	1869	1746	1717
60°	1771	1633	1612
65°	1663	1514	1489
70°	1526	1370	1354
75°	1338	1197	1226
80°	1109	976	990
85°	757	616	616

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 2038 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	104.8	2.0
10°-20°	294.9	5.5
20°-30°	433.4	8.1
30°-40°	503.4	9.4
40°-50°	502.7	9.4
50°-60°	438.4	8.2
60°-70°	324.1	6.0
70°-80°	183.3	3.4
80°-90°	50.9	0.9
90°-100°	56.0	1.0
100°-110°	178.0	3.3
110°-120°	304.6	5.7
120°-130°	400.5	7.5
130°-140°	449.6	8.4
140°-150°	440.9	8.2
150°-160°	369.8	6.9
160°-170°	245.3	4.6
170°-180°	85.7	1.6
0°-30°	833.1	15.5
0°-40°	1336.5	24.9
0°-60°	2277.6	42.4
0°-90°	2836.0	52.8
90°-120°	538.5	10.0
90°-150°	1829.5	34.1
90°-180°	2530.0	47.1
0°-180°	5366.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1114	1114	1114	1114	1114	
5°	1114	1109	1098	1106	1104	106
15°	1060	1054	1040	1044	1039	299
25°	959	951	933	935	933	441
35°	828	817	800	793	788	517
45°	674	666	650	638	634	520
55°	510	503	490	478	472	456
65°	344	337	327	317	312	340
75°	180	178	172	166	168	192
85°	44	43	42	38	38	49
90°	1	10	27	25	26	5
95°	40	48	49	49	48	44
105°	164	166	168	169	169	173
115°	306	310	309	308	306	302
125°	445	451	449	447	446	397
135°	575	583	585	584	582	444
145°	698	704	708	709	706	436
155°	798	800	803	807	804	367
165°	868	868	868	873	869	245
175°	904	901	900	905	900	86
180°	905	905	905	905	905	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1113.6	1113.6	1113.6	1113.6	1113.6
2.5°	1120.1	1114.7	1102.9	1113.6	1111.6
5°	1113.6	1109.4	1097.6	1106.2	1104.1
7.5°	1106.2	1099.8	1087.9	1096.6	1094.4
10°	1094.4	1086.9	1074.1	1082.6	1079.5
12.5°	1078.3	1071.9	1059.1	1064.4	1062.3
15°	1060.1	1053.8	1039.8	1044.1	1038.7
17.5°	1037.6	1031.3	1017.3	1022.6	1017.3
20°	1013.0	1006.6	991.6	994.7	990.5
22.5°	988.4	978.8	964.8	964.8	962.6
25°	959.4	950.9	932.7	934.8	932.7
27.5°	927.3	919.8	905.9	902.8	897.4
30°	895.2	886.6	870.6	867.4	863.1
32.5°	861.0	854.6	837.4	830.9	826.6
35°	827.8	817.1	799.9	793.4	788.1
37.5°	790.3	780.7	763.5	755.9	750.6
40°	751.8	743.2	726.0	716.5	712.2
42.5°	714.3	705.7	688.6	677.8	671.4
45°	673.6	666.1	650.0	638.2	633.9
47.5°	633.9	626.5	609.3	597.5	591.1
50°	592.1	586.8	571.8	556.8	551.5
52.5°	551.5	544.0	530.1	518.3	510.8
55°	509.8	503.3	490.5	477.7	472.3
57.5°	467.9	462.6	448.7	435.8	431.5
60°	426.2	422.0	407.0	395.1	392.0
62.5°	385.5	378.0	367.3	356.6	352.3
65°	343.8	337.3	326.6	317.0	311.7
67.5°	301.0	295.5	285.9	278.5	274.2
70°	261.3	257.0	247.4	239.8	235.6
72.5°	220.7	216.3	210.9	203.5	200.3
75°	179.8	177.8	172.4	166.0	168.2
77.5°	143.5	139.2	137.0	133.8	130.7
80°	107.1	106.0	103.8	100.6	98.5
82.5°	72.8	72.8	71.8	67.4	67.4
85°	43.9	42.8	41.8	38.5	37.5
87.5°	19.3	17.2	15.0	11.8	10.7
90°	0.9	9.8	26.7	25.1	25.9
92.5°	16.9	22.9	23.8	24.5	24.5
95°	39.9	47.5	48.8	48.8	47.5
97.5°	66.3	73.4	76.4	76.4	76.4
100°	96.8	103.1	105.3	105.3	104.6
102.5°	129.1	133.8	136.7	137.6	136.7
105°	164.3	166.5	168.1	169.4	169.4
107.5°	199.2	202.4	202.4	203.0	199.2
110°	233.1	237.5	237.5	237.5	235.3

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	269.6	274.3	273.4	271.2	269.6
115°	305.7	310.0	308.6	307.9	305.7
117.5°	341.3	347.4	343.5	341.3	339.1
120°	377.4	383.4	377.4	377.4	374.9
122.5°	410.1	417.8	413.9	411.7	410.1
125°	444.6	451.3	449.1	446.7	445.9
127.5°	478.0	486.5	483.6	480.2	478.0
130°	509.4	519.3	517.9	516.3	513.3
132.5°	544.6	552.3	552.8	549.0	546.8
135°	575.0	583.4	585.1	584.2	582.0
137.5°	608.7	615.6	617.0	616.5	613.1
140°	638.5	645.4	649.2	649.2	646.1
142.5°	669.1	675.9	678.1	679.0	675.9
145°	698.0	703.5	707.9	708.6	705.7
147.5°	724.0	730.8	734.0	735.4	732.4
150°	750.7	755.4	758.3	760.8	758.3
152.5°	774.5	779.0	782.9	785.9	782.9
155°	798.2	800.3	802.8	806.6	804.2
157.5°	818.6	820.2	821.7	827.1	823.3
160°	836.9	838.6	839.4	844.0	840.8
162.5°	853.8	853.8	854.7	859.8	856.0
165°	868.3	867.5	867.5	872.9	869.1
167.5°	881.4	878.9	878.9	884.4	880.5
170°	891.2	889.0	888.3	893.7	889.0
172.5°	898.0	895.9	895.0	900.5	895.9
175°	903.5	901.3	899.7	905.2	900.5
177.5°	906.5	904.3	902.7	907.3	902.7
180°	905.2	905.2	905.2	905.2	905.2

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CIE UGR TABLE:

Reflectances:											
Ceiling		0.7	0.7	0.5	0.5	0.3	0.7	0.7	0.5	0.5	0.3
Wall		0.5	0.3	0.5	0.3	0.3	0.5	0.3	0.5	0.3	0.3
Reference plane		0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Room dimensions		Viewed crosswise					Viewed endwise				
X=2H	Y=2H	10.56	11.45	11.49	12.40	13.63	10.14	11.03	11.07	11.98	13.21
	3H	12.20	13.00	13.15	13.96	15.21	11.74	12.54	12.68	13.50	14.75
	4H	12.77	13.53	13.73	14.49	15.75	12.31	13.07	13.27	14.03	15.29
	6H	13.16	13.85	14.13	14.82	16.10	12.70	13.39	13.67	14.36	15.64
	8H	13.25	13.91	14.23	14.90	16.17	12.80	13.46	13.77	14.44	15.71
	12H	13.29	13.92	14.28	14.90	16.20	12.83	13.46	13.81	14.44	15.74
4H	2H	11.02	11.77	11.98	12.73	14.00	10.68	11.43	11.64	12.40	13.66
	3H	12.86	13.49	13.83	14.48	15.76	12.48	13.10	13.45	14.10	15.37
	4H	13.56	14.13	14.54	15.12	16.42	13.16	13.74	14.14	14.72	16.02
	6H	14.05	14.55	15.04	15.56	16.85	13.65	14.15	14.65	15.16	16.46
	8H	14.19	14.65	15.19	15.66	16.97	13.79	14.25	14.79	15.26	16.57
	12H	14.25	14.67	15.27	15.69	17.01	13.85	14.26	14.86	15.28	16.60
8H	4H	13.74	14.21	14.74	15.21	16.52	13.39	13.86	14.39	14.86	16.17
	6H	14.35	14.73	15.37	15.78	17.09	14.00	14.38	15.02	15.42	16.74
	8H	14.55	14.89	15.58	15.92	17.25	14.20	14.53	15.23	15.57	16.90
	12H	14.67	14.97	15.70	15.99	17.37	14.30	14.60	15.33	15.62	17.00
12H	4H	13.73	14.15	14.74	15.17	16.48	13.38	13.80	14.40	14.82	16.14
	6H	14.37	14.71	15.40	15.74	17.07	14.03	14.37	15.06	15.40	16.73
	8H	14.60	14.90	15.63	15.92	17.30	14.25	14.55	15.29	15.58	16.95