

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: P903070

Luminaire Tested: DFN2DIP-PN3F0-070D050US830-RLLFLL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P903070
REPORT IS A COMBINATION OF REPORTS P899548 AND P896399
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-PN3F0-070D050US830-RLLFLL
Description: 3 foot, Pentagon Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

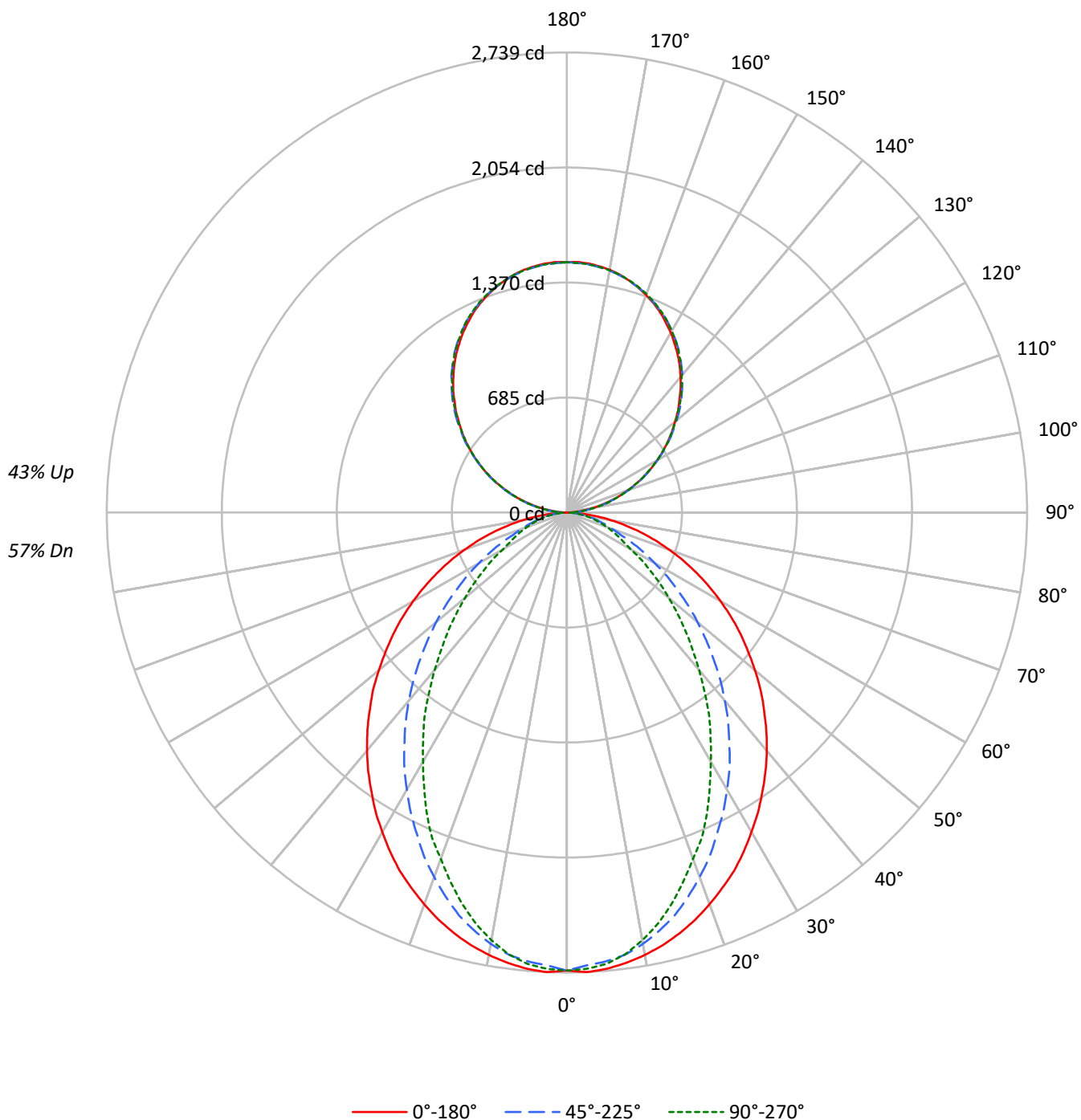
Lumens per Lamp: N/A
Luminaire Lumens: 9778.8 lumens
Efficiency: N/A
Efficacy: 91.2 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular w/ Sides (W: 2.96' x L: 3.11' x H: 0.1')
CIE Type: General Diffuse

Input Watts (W): 107.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.946
Total Harmonic Distortion (THDi): 0.132
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	109	109	109	109	101	101	101	101	87	87	87	75	75	75	63	63	63
1	100	96	92	89	93	89	86	83	78	75	73	67	65	63	56	55	54
2	92	84	78	73	85	79	74	69	69	65	61	59	56	54	50	48	47
3	84	75	68	62	78	70	64	59	61	56	52	53	49	46	45	42	40
4	77	66	59	53	72	62	56	50	55	49	45	47	43	40	41	38	35
5	71	60	52	46	66	56	49	44	49	44	39	43	39	35	37	34	31
6	66	54	46	40	61	51	43	38	45	39	35	39	34	31	34	30	28
7	61	49	41	35	57	46	39	34	41	35	31	36	31	28	31	27	25
8	57	44	37	32	53	42	35	30	37	32	28	33	28	25	29	25	22
9	53	41	33	28	49	38	32	27	34	29	25	30	26	23	26	23	20
10	49	37	30	26	46	35	29	25	32	26	23	28	24	21	25	21	19

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3188	3188	3188
5°	3191	3135	3156
10°	3157	3071	3052
15°	3112	2967	2892
20°	3053	2825	2696
25°	2992	2667	2507
30°	2911	2504	2267
35°	2831	2329	2057
40°	2750	2149	1816
45°	2656	1949	1598
50°	2559	1748	1385
55°	2457	1532	1181
60°	2339	1308	970
65°	2203	1080	872
70°	2038	867	787
75°	1831	759	713
80°	1531	630	614
85°	1040	409	453

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 2656 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	255.6	2.6
10°-20°	701.6	7.2
20°-30°	985.0	10.1
30°-40°	1073.7	11.0
40°-50°	986.9	10.1
50°-60°	775.0	7.9
60°-70°	504.5	5.2
70°-80°	259.7	2.7
80°-90°	70.5	0.7
90°-100°	92.2	0.9
100°-110°	293.0	3.0
110°-120°	501.5	5.1
120°-130°	659.5	6.7
130°-140°	740.3	7.6
140°-150°	725.9	7.4
150°-160°	609.0	6.2
160°-170°	403.9	4.1
170°-180°	141.2	1.4
0°-30°	1942.1	19.9
0°-40°	3015.8	30.8
0°-60°	4777.7	48.9
0°-90°	5612.3	57.4
90°-120°	886.7	9.1
90°-150°	3012.5	30.8
90°-180°	4167.0	42.6
0°-180°	9778.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2727	2727	2727	2727	2727	
5°	2727	2714	2682	2705	2697	259
15°	2594	2566	2483	2436	2411	731
25°	2354	2275	2112	2011	1974	1083
35°	2028	1903	1686	1530	1476	1270
45°	1658	1493	1234	1059	999	1281
55°	1261	1068	802	654	607	1127
65°	851	651	429	346	338	844
75°	454	281	197	180	178	480
85°	106	54	47	47	47	122
90°	1	16	44	41	43	10
95°	66	78	80	80	78	73
105°	270	274	277	279	279	285
115°	503	510	508	507	503	498
125°	732	743	740	736	734	654
135°	947	961	963	962	958	732
145°	1149	1158	1166	1167	1162	718
155°	1314	1318	1322	1328	1324	605
165°	1430	1428	1428	1438	1431	403
175°	1488	1484	1482	1490	1483	141
180°	1490	1490	1490	1490	1490	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2726.9	2726.9	2726.9	2726.9	2726.9
2.5°	2739.1	2726.9	2699.6	2724.5	2719.5
5°	2726.9	2714.5	2682.4	2704.6	2697.3
7.5°	2704.6	2689.9	2655.4	2665.0	2652.8
10°	2675.0	2657.8	2608.5	2600.9	2586.2
12.5°	2638.1	2615.8	2549.1	2534.4	2507.2
15°	2593.6	2566.4	2482.6	2435.7	2411.1
17.5°	2541.8	2502.3	2398.6	2344.3	2304.8
20°	2482.6	2433.1	2309.8	2248.2	2193.8
22.5°	2418.5	2361.6	2218.4	2134.6	2097.7
25°	2354.3	2275.2	2112.3	2011.3	1974.2
27.5°	2277.8	2193.8	2013.6	1897.7	1840.9
30°	2196.4	2102.4	1905.0	1779.3	1712.6
32.5°	2117.3	2003.8	1801.6	1653.4	1591.6
35°	2028.5	1902.6	1685.6	1530.1	1475.6
37.5°	1942.2	1806.3	1577.0	1406.5	1345.0
40°	1850.8	1702.9	1463.3	1288.2	1224.0
42.5°	1757.1	1599.2	1349.9	1167.2	1105.7
45°	1658.4	1492.9	1234.0	1058.6	999.4
47.5°	1564.6	1389.5	1122.9	947.5	893.3
50°	1460.9	1285.8	1014.3	843.9	792.3
52.5°	1359.6	1174.5	910.6	747.7	700.9
55°	1260.9	1068.5	801.9	654.0	607.2
57.5°	1159.9	962.4	705.9	567.6	528.1
60°	1056.2	858.8	604.5	478.9	439.3
62.5°	955.1	757.7	518.1	399.8	380.1
65°	851.4	651.4	429.4	345.6	338.0
67.5°	752.7	552.7	345.6	303.4	296.1
70°	649.0	456.6	286.2	261.6	251.6
72.5°	550.4	367.6	239.3	219.7	214.7
75°	454.0	281.2	197.4	180.1	177.8
77.5°	357.9	199.7	155.5	145.5	140.6
80°	268.9	143.2	118.4	108.7	108.7
82.5°	187.5	96.3	81.4	76.4	76.4
85°	106.0	54.2	46.8	46.8	46.8
87.5°	39.5	19.6	19.6	17.2	17.2
90°	1.3	16.2	44.0	41.4	42.7
92.5°	27.9	37.7	39.1	40.4	40.4
95°	65.6	78.2	80.4	80.4	78.2
97.5°	109.1	120.8	125.8	125.8	125.8
100°	159.5	169.8	173.4	173.4	172.1
102.5°	212.5	220.2	225.1	226.5	225.1
105°	270.5	274.1	276.8	279.0	279.0
107.5°	328.0	333.4	333.4	334.3	328.0
110°	383.7	391.0	391.0	391.0	387.3

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	443.9	451.6	450.3	446.7	443.9
115°	503.2	510.5	508.2	506.9	503.2
117.5°	562.1	572.0	565.7	562.1	558.6
120°	621.4	631.3	621.4	621.4	617.4
122.5°	675.3	688.0	681.6	678.1	675.3
125°	732.0	743.2	739.6	735.6	734.2
127.5°	787.2	801.2	796.3	790.8	787.2
130°	839.0	855.1	852.8	850.2	845.2
132.5°	896.9	909.5	910.4	904.1	900.5
135°	946.8	960.6	963.4	962.1	958.5
137.5°	1002.5	1013.7	1016.0	1015.0	1009.7
140°	1051.4	1062.7	1068.9	1068.9	1064.0
142.5°	1101.7	1113.0	1116.6	1117.9	1113.0
145°	1149.4	1158.4	1165.5	1167.0	1162.0
147.5°	1192.1	1203.3	1208.7	1211.0	1206.0
150°	1236.1	1243.8	1248.7	1252.7	1248.7
152.5°	1275.3	1282.9	1289.1	1294.1	1289.1
155°	1314.3	1317.9	1321.9	1328.2	1324.2
157.5°	1348.0	1350.7	1352.9	1362.0	1355.7
160°	1378.1	1380.8	1382.1	1389.8	1384.4
162.5°	1406.0	1406.0	1407.3	1415.9	1409.6
165°	1429.8	1428.4	1428.4	1437.5	1431.2
167.5°	1451.3	1447.3	1447.3	1456.3	1450.0
170°	1467.5	1464.0	1462.6	1471.6	1464.0
172.5°	1478.8	1475.2	1473.9	1482.8	1475.2
175°	1487.8	1484.1	1481.5	1490.4	1482.8
177.5°	1492.7	1489.1	1486.4	1494.0	1486.4
180°	1490.4	1490.4	1490.4	1490.4	1490.4

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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	11.80	12.69	12.70	13.61	14.77	7.76	8.66	8.66	9.57	10.74
	3H	13.47	14.27	14.39	15.20	16.39	8.95	9.75	9.86	10.67	11.86
	4H	14.08	14.84	15.01	15.77	16.96	9.40	10.16	10.33	11.08	12.28
	6H	14.50	15.20	15.44	16.13	17.34	9.72	10.42	10.66	11.35	12.56
	8H	14.63	15.29	15.57	16.24	17.45	9.81	10.47	10.75	11.42	12.63
	12H	14.69	15.32	15.64	16.26	17.50	9.85	10.48	10.80	11.43	12.66
4H	2H	11.82	12.58	12.75	13.51	14.70	8.36	9.12	9.30	10.05	11.25
	3H	13.65	14.28	14.59	15.24	16.45	9.71	10.34	10.65	11.30	12.51
	4H	14.34	14.91	15.29	15.87	17.10	10.26	10.83	11.21	11.78	13.02
	6H	14.85	15.35	15.82	16.32	17.56	10.68	11.17	11.64	12.14	13.38
	8H	15.03	15.49	15.99	16.46	17.71	10.80	11.26	11.77	12.23	13.48
	12H	15.12	15.54	16.11	16.52	17.78	10.87	11.28	11.85	12.27	13.52
8H	4H	14.31	14.77	15.28	15.74	16.99	10.54	11.00	11.51	11.97	13.22
	6H	14.87	15.25	15.86	16.27	17.52	11.05	11.43	12.04	12.44	13.69
	8H	15.09	15.42	16.09	16.42	17.69	11.24	11.57	12.24	12.58	13.84
	12H	15.22	15.52	16.23	16.51	17.83	11.36	11.65	12.36	12.64	13.96
12H	4H	14.27	14.68	15.25	15.67	16.92	10.55	10.96	11.53	11.95	13.21
	6H	14.85	15.18	15.85	16.18	17.45	11.10	11.44	12.10	12.44	13.71
	8H	15.07	15.36	16.07	16.36	17.67	11.31	11.60	12.31	12.60	13.91

END OF REPORT