

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: P903086

Luminaire Tested: DFN2DIP-PN3F0-070D090US830-RLLFLL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P903086
REPORT IS A COMBINATION OF REPORTS P899604 AND P896399
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-PN3F0-070D090US830-RLLFLL
Description: 3 foot, Pentagon Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

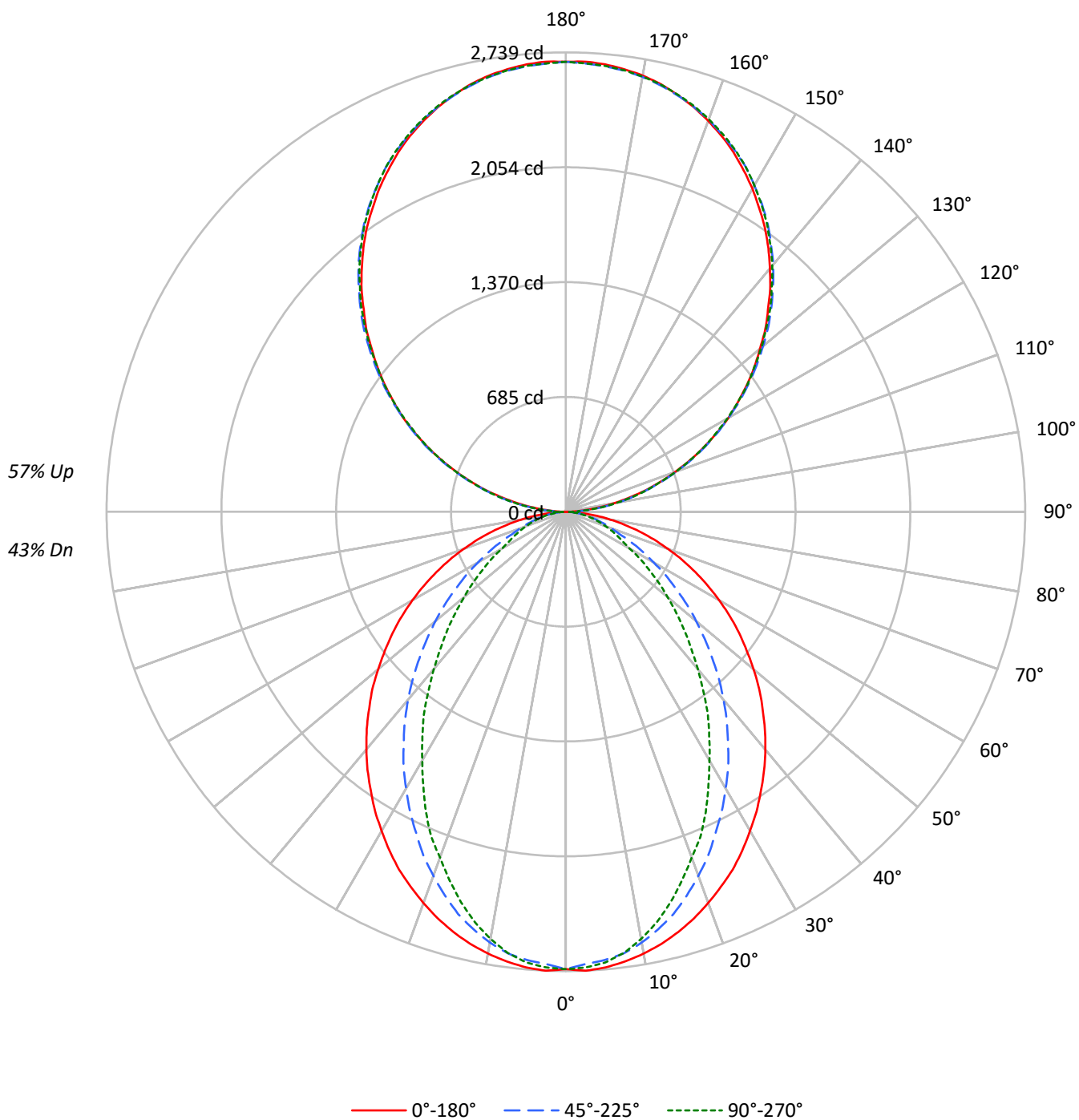
Lumens per Lamp: N/A
Luminaire Lumens: 13115.4 lumens
Efficiency: N/A
Efficacy: 93.2 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular w/ Sides (W: 2.96' x L: 3.11' x H: 0.1')
CIE Type: General Diffuse

Input Watts (W): 140.7
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

TEST NUMBER: P903086

CATALOG NUMBER: DFN2DIP-PN3F0-070D090US830-RLLFLL

Luminous Intensity Polar Plot



TEST NUMBER: P903086

CATALOG NUMBER: DFN2DIP-PN3F0-070D090US830-RLLFLL

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	105	105	105	105	96	96	96	96	79	79	79	64	64	64	50	50	50
1	97	92	89	85	88	85	82	79	70	68	66	57	55	54	44	43	43
2	88	81	75	70	80	74	69	65	62	58	55	50	48	46	40	38	36
3	81	72	65	59	74	66	60	55	55	51	47	45	42	39	35	33	32
4	74	64	56	50	68	59	52	47	49	44	40	40	37	34	32	30	28
5	68	57	49	43	62	52	46	41	44	39	35	36	32	30	29	26	24
6	63	51	43	38	57	47	40	35	40	35	31	33	29	26	26	24	22
7	58	46	39	33	53	43	36	31	36	31	27	30	26	23	24	21	19
8	54	42	35	29	49	39	32	28	33	28	24	28	24	21	22	19	17
9	50	38	31	26	46	36	29	25	30	25	22	25	22	19	21	18	16
10	47	35	28	24	43	33	27	22	28	23	20	23	20	17	19	16	14

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: 90°

Vertical Angle: 90°

Luminance: 2657 cd/sqm

TEST NUMBER: P903086

CATALOG NUMBER: DFN2DIP-PN3F0-070D090US830-RLFL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	255.6	1.9
10°-20°	701.6	5.3
20°-30°	985.0	7.5
30°-40°	1073.7	8.2
40°-50°	986.9	7.5
50°-60°	775.0	5.9
60°-70°	504.5	3.8
70°-80°	259.7	2.0
80°-90°	73.9	0.6
90°-100°	166.0	1.3
100°-110°	527.5	4.0
110°-120°	902.7	6.9
120°-130°	1187.2	9.1
130°-140°	1332.5	10.2
140°-150°	1306.7	10.0
150°-160°	1096.1	8.4
160°-170°	726.9	5.5
170°-180°	254.1	1.9
0°-30°	1942.1	14.8
0°-40°	3015.8	23.0
0°-60°	4777.7	36.4
0°-90°	5615.7	42.8
90°-120°	1596.2	12.2
90°-150°	5422.6	41.3
90°-180°	7500.0	57.2
0°-180°	13115.4	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°	2	29	79	74	77	13
95°	118	141	145	145	141	131
105°	487	493	498	502	502	514
115°	906	919	915	912	906	896
125°	1318	1338	1331	1324	1322	1177
135°	1704	1729	1734	1732	1725	1317
145°	2069	2085	2098	2100	2092	1293
155°	2366	2372	2380	2391	2384	1089
165°	2574	2571	2571	2587	2576	726
175°	2678	2671	2667	2683	2669	254
180°	2683	2683	2683	2683	2683	

TEST NUMBER: P903086

CATALOG NUMBER: DFN2DIP-PN3F0-070D090US830-RLFL

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°	2.5	29.1	79.3	74.4	76.8
92.5°	50.1	68.0	70.4	72.8	72.8
95°	118.1	140.7	144.8	144.8	140.7
97.5°	196.5	217.5	226.5	226.5	226.5
100°	287.1	305.8	312.2	312.2	309.8
102.5°	382.6	396.3	405.2	407.6	405.2
105°	486.9	493.3	498.2	502.3	502.3
107.5°	590.4	600.1	600.1	601.7	590.4
110°	690.7	703.7	703.7	703.7	697.2



TEST NUMBER: P903086

CATALOG NUMBER: DFN2DIP-PN3F0-070D090US830-RLLFLL

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	799.1	812.8	810.4	804.0	799.1
115°	905.9	918.8	914.7	912.4	905.9
117.5°	1011.8	1029.6	1018.3	1011.8	1005.3
120°	1118.6	1136.3	1118.6	1118.6	1111.3
122.5°	1215.6	1238.3	1227.0	1220.5	1215.6
125°	1317.6	1337.8	1331.3	1324.0	1321.6
127.5°	1417.0	1442.1	1433.2	1423.5	1417.0
130°	1510.0	1539.2	1535.1	1530.2	1521.4
132.5°	1614.4	1637.0	1638.6	1627.3	1620.9
135°	1704.1	1729.2	1734.1	1731.6	1725.2
137.5°	1804.4	1824.7	1828.7	1827.1	1817.4
140°	1892.6	1912.8	1924.1	1924.1	1915.2
142.5°	1983.2	2003.4	2009.9	2012.3	2003.4
145°	2069.0	2085.1	2098.0	2100.5	2091.6
147.5°	2145.8	2166.0	2175.7	2179.7	2170.9
150°	2225.1	2238.8	2247.7	2254.9	2247.7
152.5°	2295.4	2309.1	2320.4	2329.4	2320.4
155°	2365.8	2372.2	2379.5	2390.9	2383.6
157.5°	2426.4	2431.3	2435.3	2451.5	2440.1
160°	2480.6	2485.5	2487.9	2501.6	2491.9
162.5°	2530.7	2530.7	2533.2	2548.5	2537.2
165°	2573.6	2571.2	2571.2	2587.4	2576.1
167.5°	2612.4	2605.2	2605.2	2621.3	2610.0
170°	2641.6	2635.1	2632.7	2648.8	2635.1
172.5°	2661.7	2655.3	2652.9	2669.1	2655.3
175°	2678.0	2671.4	2666.6	2682.9	2669.1
177.5°	2686.8	2680.4	2675.5	2689.3	2675.5
180°	2682.9	2682.9	2682.9	2682.9	2682.9

TEST NUMBER: P903086

CATALOG NUMBER: DFN2DIP-PN3F0-070D090US830-RLLFLL

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	10.42	11.20	11.45	12.23	13.60	6.39	7.17	7.41	8.19	9.56
	3H	12.09	12.78	13.12	13.82	15.21	7.57	8.26	8.60	9.30	10.69
	4H	12.69	13.35	13.74	14.39	15.79	8.01	8.67	9.06	9.71	11.11
	6H	13.11	13.71	14.16	14.75	16.16	8.33	8.93	9.38	9.97	11.38
	8H	13.23	13.80	14.29	14.86	16.27	8.41	8.99	9.47	10.04	11.45
	12H	13.29	13.83	14.35	14.88	16.31	8.45	9.00	9.51	10.05	11.48
4H	2H	10.43	11.09	11.49	12.13	13.53	6.98	7.63	8.03	8.67	10.07
	3H	12.25	12.80	13.31	13.86	15.28	8.31	8.86	9.37	9.93	11.34
	4H	12.94	13.44	14.00	14.49	15.93	8.85	9.35	9.92	10.41	11.85
	6H	13.44	13.87	14.52	14.95	16.38	9.26	9.69	10.34	10.77	12.20
	8H	13.61	14.01	14.69	15.09	16.53	9.39	9.79	10.46	10.86	12.31
	12H	13.70	14.06	14.79	15.15	16.60	9.45	9.81	10.54	10.90	12.35
8H	4H	12.90	13.30	13.97	14.37	15.82	9.13	9.53	10.20	10.60	12.04
	6H	13.46	13.79	14.55	14.90	16.34	9.64	9.97	10.73	11.08	12.52
	8H	13.67	13.96	14.77	15.06	16.52	9.82	10.11	10.93	11.21	12.67
	12H	13.80	14.05	14.91	15.15	16.65	9.93	10.19	11.04	11.28	12.78
12H	4H	12.85	13.21	13.94	14.30	15.75	9.13	9.49	10.22	10.58	12.03
	6H	13.43	13.72	14.53	14.82	16.28	9.68	9.97	10.79	11.07	12.53
	8H	13.64	13.90	14.75	14.99	16.49	9.89	10.14	10.99	11.23	12.73

END OF REPORT