

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: P916731

Luminaire Tested: DFN2DIP-PN3F0-080D030US930-RLLONL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P916731
REPORT IS A COMBINATION OF REPORTS P901042 AND P897955
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-PN3F0-080D030US930-RLONL
Description: 3 foot, Pentagon Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Open No Lens
Light Source: -
Ballast/Driver: -

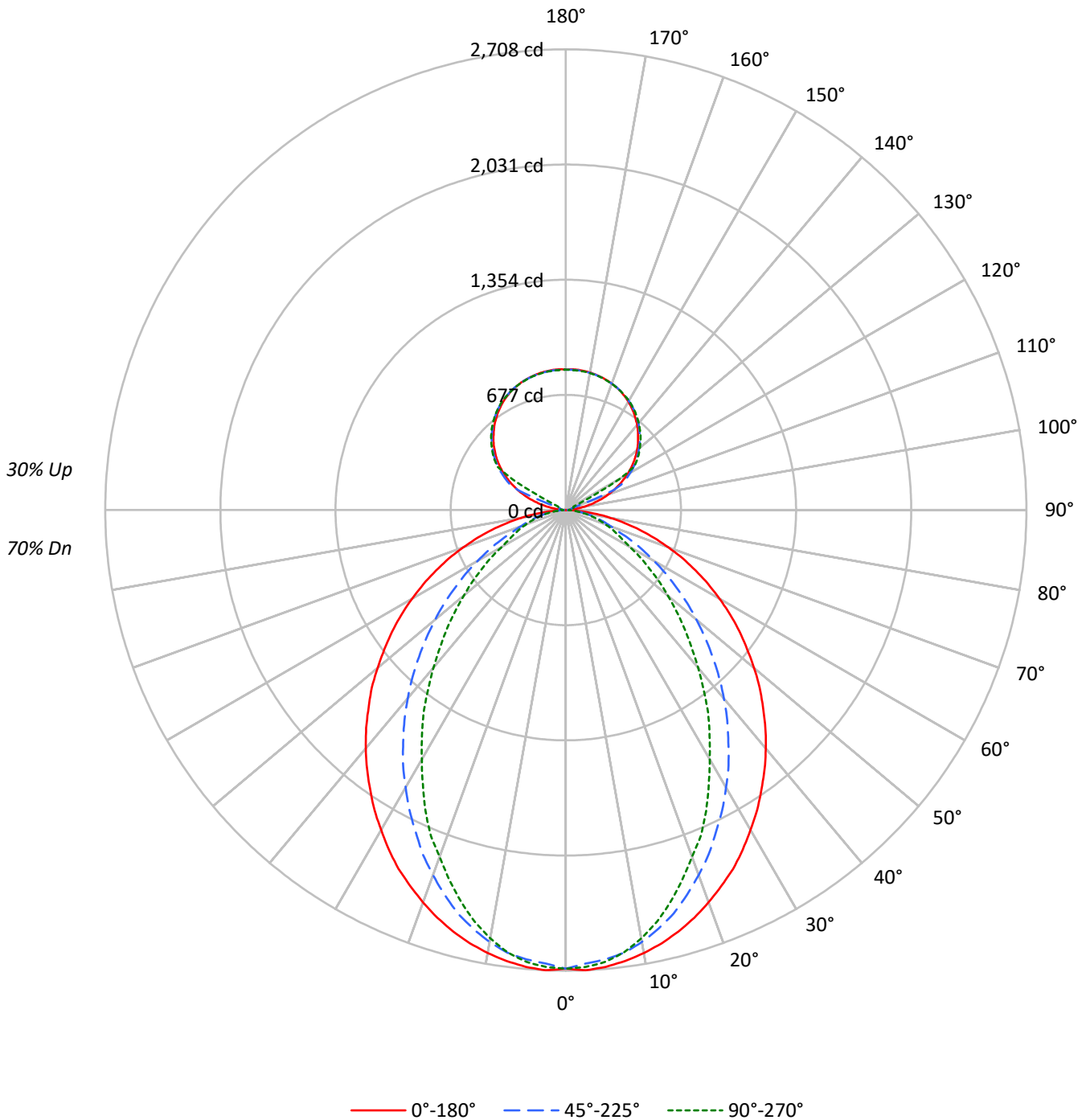
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7965.5 lumens
Efficiency: N/A
Efficacy: 77.2 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: Semi-Direct

Input Watts (W): 103.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9967
Total Harmonic Distortion (THDi): 0.063
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

TEST NUMBER: P916731
CATALOG NUMBER: DFN2DIP-PN3F0-080D030US930-RLLONL

Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20				20				20				20				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	50	30	10	0
RCR																					
0	112	112	112	112	106	106	106	106	94	94	94	84	84	84	74	74	74	74	74	74	70
1	103	99	95	92	97	93	90	87	84	81	79	75	73	71	67	65	64	64	64	64	60
2	94	87	81	76	89	83	77	73	74	70	67	67	63	61	59	57	55	55	55	55	51
3	86	77	70	64	82	73	67	62	66	61	57	59	55	52	53	50	48	48	48	48	44
4	79	69	61	55	75	65	58	53	59	54	49	53	49	45	48	45	42	42	42	42	39
5	73	62	54	48	69	59	52	46	53	47	43	48	44	40	44	40	37	37	37	37	34
6	68	56	48	42	64	53	46	41	49	42	38	44	39	35	40	36	33	33	33	33	30
7	63	51	43	37	60	49	41	36	44	38	34	40	35	32	37	32	29	29	29	29	27
8	59	46	39	33	56	44	37	32	41	35	30	37	32	28	34	30	27	27	27	27	24
9	55	43	35	30	52	41	34	29	37	32	27	34	29	26	31	27	24	24	24	24	22
10	51	39	32	27	49	38	31	26	35	29	25	32	27	24	29	25	22	22	22	22	20

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3151	3151	3151
5°	3154	3099	3120
10°	3121	3036	3017
15°	3076	2933	2859
20°	3018	2793	2665
25°	2958	2636	2478
30°	2877	2475	2242
35°	2799	2303	2034
40°	2719	2124	1796
45°	2626	1927	1580
50°	2530	1728	1369
55°	2429	1515	1167
60°	2312	1293	959
65°	2178	1067	862
70°	2015	857	778
75°	1810	751	705
80°	1513	623	607
85°	1028	405	448

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 2626 cd/sqm



TEST NUMBER: P916731

CATALOG NUMBER: DFN2DIP-PN3F0-080D030US930-RLLONL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	252.6	3.2
10°-20°	693.6	8.7
20°-30°	973.7	12.2
30°-40°	1061.4	13.3
40°-50°	975.6	12.2
50°-60°	766.2	9.6
60°-70°	498.7	6.3
70°-80°	256.7	3.2
80°-90°	67.0	0.8
90°-100°	27.2	0.3
100°-110°	101.5	1.3
110°-120°	269.1	3.4
120°-130°	446.3	5.6
130°-140°	474.1	6.0
140°-150°	440.6	5.5
150°-160°	354.3	4.4
160°-170°	228.3	2.9
170°-180°	78.6	1.0
0°-30°	1919.9	24.1
0°-40°	2981.4	37.4
0°-60°	4723.1	59.3
0°-90°	5545.5	69.6
90°-120°	397.8	5.0
90°-150°	1758.9	22.1
90°-180°	2420.0	30.4
0°-180°	7965.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2696	2696	2696	2696	2696	
5°	2696	2684	2652	2674	2666	256
15°	2564	2537	2454	2408	2384	722
25°	2327	2249	2088	1988	1952	1070
35°	2005	1881	1666	1513	1459	1255
45°	1639	1476	1220	1046	988	1266
55°	1246	1056	793	646	600	1114
65°	842	644	424	342	334	834
75°	449	278	195	178	176	475
85°	105	54	46	46	46	120
90°	1	7	12	15	16	8
95°	39	19	23	26	26	46
105°	182	200	36	43	45	194
115°	343	354	368	92	49	338
125°	486	493	505	509	511	433
135°	601	610	616	622	621	464
145°	697	696	707	711	708	436
155°	768	762	769	773	768	354
165°	809	805	807	811	807	228
175°	827	823	824	828	822	79
180°	826	826	826	826	826	



TEST NUMBER: P916731

CATALOG NUMBER: DFN2DIP-PN3F0-080D030US930-RLONL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2695.7	2695.7	2695.7	2695.7	2695.7
2.5°	2707.9	2695.7	2668.8	2693.3	2688.4
5°	2695.7	2683.6	2651.7	2673.7	2666.4
7.5°	2673.7	2659.2	2625.0	2634.6	2622.4
10°	2644.4	2627.4	2578.7	2571.2	2556.7
12.5°	2608.0	2586.0	2519.9	2505.4	2478.5
15°	2563.9	2537.0	2454.2	2407.9	2383.5
17.5°	2512.7	2473.6	2371.1	2317.6	2278.4
20°	2454.2	2405.3	2283.4	2222.6	2168.7
22.5°	2390.8	2334.6	2193.1	2110.2	2073.7
25°	2327.4	2249.2	2088.2	1988.3	1951.6
27.5°	2251.8	2168.7	1990.6	1876.0	1819.8
30°	2171.3	2078.4	1883.3	1759.0	1693.0
32.5°	2093.1	1980.8	1781.0	1634.5	1573.4
35°	2005.4	1880.9	1666.3	1512.6	1458.7
37.5°	1919.9	1785.7	1558.9	1390.4	1329.6
40°	1829.7	1683.4	1446.6	1273.4	1210.0
42.5°	1737.0	1580.9	1334.5	1153.9	1093.0
45°	1639.4	1475.9	1219.8	1046.4	988.0
47.5°	1546.8	1373.6	1110.1	936.7	883.1
50°	1444.2	1271.1	1002.7	834.2	783.2
52.5°	1344.1	1161.1	900.2	739.2	692.9
55°	1246.5	1056.3	792.8	646.5	600.2
57.5°	1146.6	951.5	697.8	561.2	522.0
60°	1044.1	849.0	597.6	473.4	434.3
62.5°	944.2	749.0	512.3	395.3	375.9
65°	841.7	643.9	424.4	341.7	334.1
67.5°	744.1	546.4	341.7	299.9	292.8
70°	641.6	451.4	282.9	258.5	248.7
72.5°	544.0	363.4	236.6	217.2	212.2
75°	448.8	278.0	195.2	178.1	175.8
77.5°	353.8	197.5	153.8	143.9	139.0
80°	265.8	141.6	117.0	107.4	107.4
82.5°	185.3	95.2	80.5	75.6	75.6
85°	104.8	53.6	46.3	46.3	46.3
87.5°	39.1	19.4	19.4	17.1	17.1
90°	0.6	7.2	11.9	15.0	16.1
92.5°	15.0	12.6	14.3	15.6	16.1
95°	38.8	19.1	23.2	26.3	25.7
97.5°	69.9	21.0	30.4	32.3	32.9
100°	105.7	23.9	34.1	38.8	40.0
102.5°	145.1	144.0	35.2	41.7	43.6
105°	181.6	199.5	36.4	43.0	45.4
107.5°	224.0	238.9	37.7	44.2	46.6
110°	264.6	277.1	104.5	44.8	47.2



TEST NUMBER: P916731

CATALOG NUMBER: DFN2DIP-PN3F0-080D030US930-RLLONL

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	302.9	313.6	303.5	46.0	47.8
115°	343.4	353.6	368.5	92.0	49.0
117.5°	378.7	390.6	400.8	315.4	158.9
120°	418.1	427.1	437.8	445.0	364.4
122.5°	451.5	461.1	473.1	476.6	477.3
125°	485.6	493.3	504.8	508.9	510.7
127.5°	516.7	525.0	534.0	540.0	540.5
130°	545.9	555.5	562.1	568.6	568.1
132.5°	575.8	583.6	590.1	595.5	594.9
135°	600.9	610.5	615.8	621.8	620.6
137.5°	627.1	634.3	640.3	646.3	644.5
140°	652.8	657.6	664.1	669.5	666.6
142.5°	674.4	678.6	686.3	691.0	688.1
145°	697.1	696.4	706.6	710.8	707.8
147.5°	716.7	714.9	725.1	728.1	725.7
150°	735.9	731.7	741.3	744.8	741.8
152.5°	751.9	747.2	756.2	759.8	755.6
155°	767.5	762.2	769.3	772.9	768.2
157.5°	780.1	775.3	780.7	784.9	780.1
160°	790.8	787.3	790.8	794.4	790.2
162.5°	800.4	796.8	799.8	804.0	798.6
165°	808.7	805.2	807.0	811.1	807.0
167.5°	815.3	811.7	813.5	817.7	812.4
170°	820.7	817.1	818.3	822.5	817.1
172.5°	824.3	820.7	821.9	826.1	820.7
175°	827.2	823.0	824.3	828.4	822.5
177.5°	828.4	824.3	824.9	829.1	823.7
180°	825.5	825.5	825.5	825.5	825.5



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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	12.76	13.78	13.53	14.57	15.54	8.73	9.75	9.50	10.54	11.50
	3H	14.44	15.36	15.23	16.16	17.15	9.92	10.84	10.71	11.64	12.63
	4H	15.06	15.92	15.87	16.73	17.73	10.38	11.24	11.18	12.05	13.05
	6H	15.48	16.28	16.30	17.10	18.11	10.70	11.50	11.52	12.31	13.33
	8H	15.61	16.37	16.44	17.21	18.22	10.80	11.55	11.62	12.39	13.41
	12H	15.68	16.40	16.51	17.23	18.27	10.84	11.56	11.68	12.39	13.44
4H	2H	12.80	13.66	13.61	14.47	15.48	9.34	10.20	10.15	11.01	12.02
	3H	14.64	15.35	15.46	16.20	17.22	10.70	11.42	11.52	12.26	13.28
	4H	15.33	15.98	16.17	16.83	17.87	11.25	11.90	12.09	12.74	13.79
	6H	15.85	16.41	16.70	17.28	18.33	11.67	12.23	12.53	13.10	14.16
	8H	16.03	16.55	16.88	17.41	18.48	11.80	12.33	12.66	13.19	14.25
	12H	16.13	16.60	17.00	17.48	18.55	11.87	12.34	12.75	13.23	14.30
8H	4H	15.31	15.84	16.17	16.70	17.76	11.54	12.06	12.40	12.93	13.99
	6H	15.88	16.31	16.76	17.22	18.28	12.06	12.49	12.94	13.40	14.46
	8H	16.09	16.48	16.99	17.38	18.46	12.25	12.63	13.14	13.53	14.61
	12H	16.23	16.57	17.13	17.46	18.60	12.37	12.71	13.26	13.60	14.73
12H	4H	15.27	15.74	16.15	16.63	17.70	11.55	12.02	12.43	12.91	13.98
	6H	15.85	16.24	16.75	17.14	18.22	12.11	12.49	13.00	13.39	14.47
	8H	16.08	16.42	16.97	17.31	18.44	12.32	12.66	13.22	13.55	14.69