

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: P919459

Luminaire Tested: DFN2DIP-PN3F0-080D030US935-RLLONL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P919459
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-PN3F0-080D030US935-RLONL
Description: 3 foot, Pentagon Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Open No Lens
Light Source: -
Ballast/Driver: -

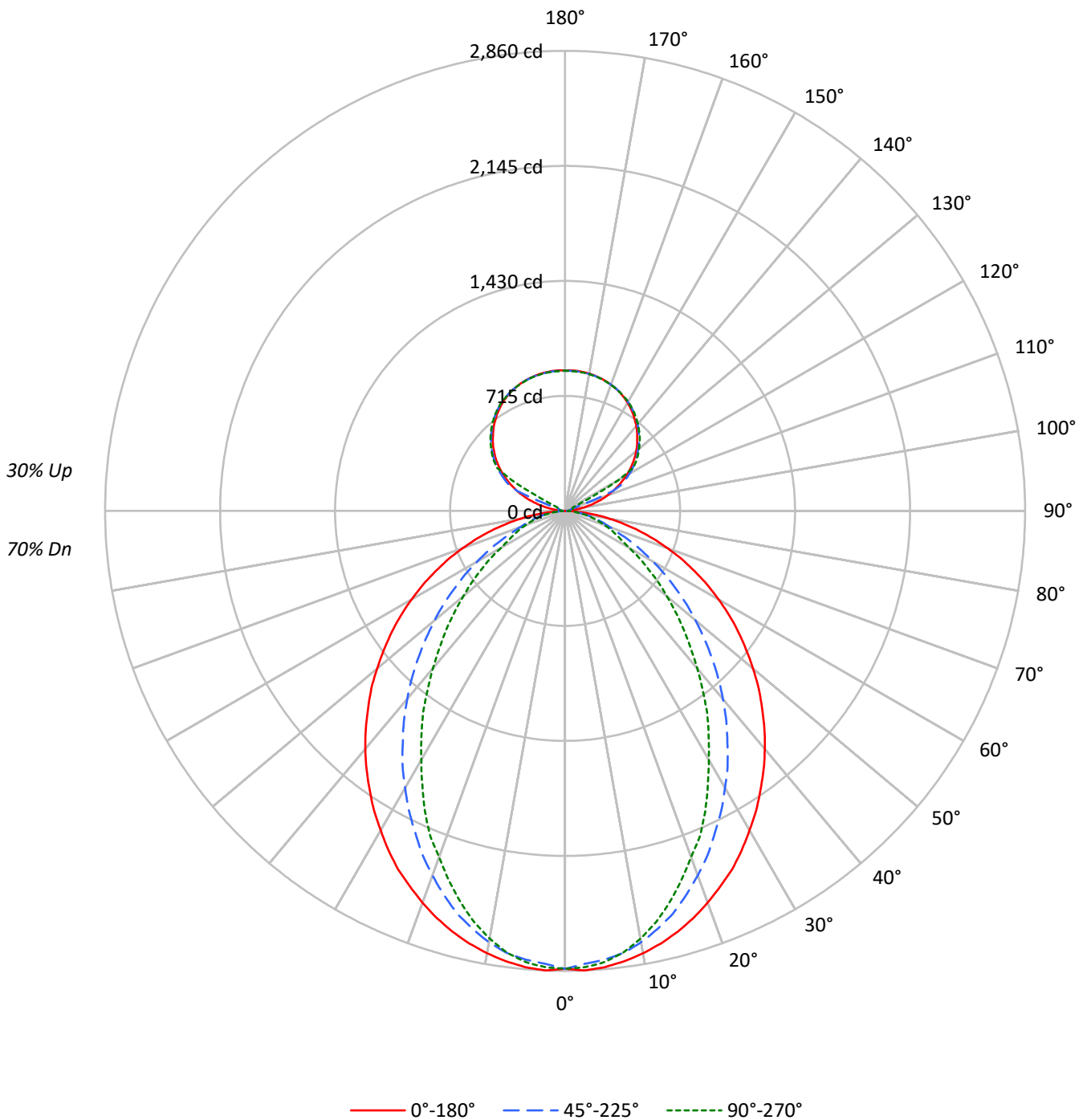
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8412.0 lumens
Efficiency: N/A
Efficacy: 81.5 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: P919459
CATALOG NUMBER: DFN2DIP-PN3F0-080D030US935-RLLONL

Luminous Intensity Polar Plot





TEST NUMBER: P919459
 CATALOG NUMBER: DFN2DIP-PN3F0-080D030US935-RLLONL

COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	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	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	74	74	74	20		
1	103	99	95	92	97	93	90	87	84	81	79	75	73	71	67	65	64	64	64	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	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	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	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	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	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	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	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	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	22	22	22	20		

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3328	3328	3328
5°	3331	3273	3295
10°	3296	3206	3186
15°	3249	3098	3019
20°	3187	2950	2815
25°	3123	2784	2617
30°	3039	2614	2367
35°	2956	2432	2148
40°	2871	2244	1896
45°	2773	2035	1669
50°	2671	1824	1446
55°	2565	1600	1232
60°	2442	1365	1013
65°	2300	1127	910
70°	2128	905	822
75°	1912	793	744
80°	1598	658	641
85°	1086	428	473

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 2773 cd/sqm



TEST NUMBER: P919459

CATALOG NUMBER: DFN2DIP-PN3F0-080D030US935-RLLONL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	266.8	3.2
10°-20°	732.4	8.7
20°-30°	1028.3	12.2
30°-40°	1120.9	13.3
40°-50°	1030.3	12.2
50°-60°	809.1	9.6
60°-70°	526.6	6.3
70°-80°	271.1	3.2
80°-90°	70.7	0.8
90°-100°	28.7	0.3
100°-110°	107.2	1.3
110°-120°	284.2	3.4
120°-130°	471.3	5.6
130°-140°	500.7	6.0
140°-150°	465.3	5.5
150°-160°	374.1	4.4
160°-170°	241.1	2.9
170°-180°	83.0	1.0
0°-30°	2027.6	24.1
0°-40°	3148.5	37.4
0°-60°	4987.8	59.3
0°-90°	5856.3	69.6
90°-120°	420.1	5.0
90°-150°	1857.5	22.1
90°-180°	2556.0	30.4
0°-180°	8412.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2847	2847	2847	2847	2847	
5°	2847	2834	2800	2824	2816	270
15°	2708	2679	2592	2543	2517	763
25°	2458	2375	2205	2100	2061	1130
35°	2118	1986	1760	1597	1540	1326
45°	1731	1559	1288	1105	1043	1337
55°	1316	1116	837	683	634	1176
65°	889	680	448	361	353	881
75°	474	294	206	188	186	501
85°	111	57	49	49	49	127
90°	1	8	13	16	17	8
95°	41	20	24	28	27	49
105°	192	211	38	45	48	205
115°	363	373	389	97	52	357
125°	513	521	533	537	539	457
135°	635	645	650	657	655	490
145°	736	736	746	751	747	460
155°	810	805	812	816	811	373
165°	854	850	852	857	852	241
175°	874	869	870	875	869	83
180°	872	872	872	872	872	



TEST NUMBER: P919459

CATALOG NUMBER: DFN2DIP-PN3F0-080D030US935-RLONL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2846.8	2846.8	2846.8	2846.8	2846.8
2.5°	2859.6	2846.8	2818.4	2844.3	2839.1
5°	2846.8	2834.0	2800.3	2823.6	2815.9
7.5°	2823.6	2808.2	2772.2	2782.3	2769.4
10°	2792.6	2774.7	2723.3	2715.3	2700.0
12.5°	2754.2	2730.9	2661.2	2645.8	2617.4
15°	2707.7	2679.3	2591.8	2542.9	2517.1
17.5°	2653.5	2612.3	2504.0	2447.5	2406.1
20°	2591.8	2540.1	2411.4	2347.2	2290.3
22.5°	2524.8	2465.5	2316.0	2228.5	2189.9
25°	2457.8	2375.3	2205.3	2099.8	2061.0
27.5°	2378.0	2290.3	2102.2	1981.2	1921.8
30°	2293.0	2194.9	1988.8	1857.6	1787.9
32.5°	2210.4	2091.9	1880.8	1726.1	1661.6
35°	2117.8	1986.3	1759.7	1597.4	1540.5
37.5°	2027.6	1885.8	1646.3	1468.3	1404.1
40°	1932.3	1777.8	1527.7	1344.8	1277.8
42.5°	1834.4	1669.6	1409.3	1218.6	1154.3
45°	1731.3	1558.6	1288.2	1105.1	1043.4
47.5°	1633.5	1450.6	1172.3	989.2	932.6
50°	1525.2	1342.4	1058.9	881.0	827.1
52.5°	1419.4	1226.1	950.6	780.7	731.8
55°	1316.4	1115.5	837.2	682.8	633.9
57.5°	1210.9	1004.8	736.9	592.6	551.3
60°	1102.6	896.6	631.1	499.9	458.7
62.5°	997.1	791.0	541.0	417.4	396.9
65°	888.9	680.0	448.2	360.8	352.8
67.5°	785.8	577.0	360.8	316.8	309.2
70°	677.6	476.7	298.8	273.0	262.7
72.5°	574.5	383.7	249.9	229.4	224.1
75°	474.0	293.6	206.1	188.0	185.6
77.5°	373.7	208.5	162.4	152.0	146.8
80°	280.7	149.6	123.6	113.4	113.4
82.5°	195.7	100.6	85.0	79.8	79.8
85°	110.7	56.6	48.9	48.9	48.9
87.5°	41.2	20.5	20.5	18.1	18.1
90°	0.6	7.6	12.6	15.8	17.0
92.5°	15.8	13.3	15.2	16.4	17.0
95°	41.0	20.1	24.5	27.8	27.1
97.5°	73.8	22.1	32.1	34.1	34.7
100°	111.7	25.2	36.0	41.0	42.3
102.5°	153.3	152.1	37.2	44.1	46.1
105°	191.7	210.7	38.5	45.4	48.0
107.5°	236.5	252.3	39.8	46.7	49.2
110°	279.5	292.7	110.4	47.4	49.9



TEST NUMBER: P919459

CATALOG NUMBER: DFN2DIP-PN3F0-080D030US935-RLLONL

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	319.9	331.1	320.5	48.6	50.5
115°	362.7	373.4	389.2	97.1	51.7
117.5°	399.9	412.5	423.3	333.0	167.8
120°	441.5	451.0	462.4	469.9	384.8
122.5°	476.8	487.0	499.6	503.3	504.0
125°	512.8	521.0	533.0	537.4	539.3
127.5°	545.6	554.4	564.0	570.2	570.8
130°	576.5	586.7	593.6	600.5	599.9
132.5°	608.0	616.3	623.2	628.9	628.3
135°	634.6	644.7	650.3	656.7	655.4
137.5°	662.3	669.9	676.2	682.5	680.6
140°	689.4	694.5	701.4	707.1	704.0
142.5°	712.2	716.6	724.8	729.8	726.7
145°	736.2	735.5	746.2	750.6	747.4
147.5°	756.9	755.0	765.8	768.9	766.4
150°	777.1	772.7	782.8	786.5	783.4
152.5°	794.1	789.1	798.6	802.4	798.0
155°	810.5	804.9	812.4	816.2	811.2
157.5°	823.8	818.8	824.5	828.9	823.8
160°	835.2	831.4	835.2	839.0	834.5
162.5°	845.2	841.5	844.6	849.0	843.3
165°	854.0	850.3	852.2	856.6	852.2
167.5°	861.0	857.2	859.1	863.6	857.9
170°	866.7	862.9	864.2	868.6	862.9
172.5°	870.5	866.7	868.0	872.4	866.7
175°	873.6	869.2	870.5	874.9	868.6
177.5°	874.9	870.5	871.2	875.5	869.9
180°	871.8	871.8	871.8	871.8	871.8



TEST NUMBER: P919459
 CATALOG NUMBER: DFN2DIP-PN3F0-080D030US935-RLONL

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	12.95	13.97	13.72	14.76	15.73	8.91	9.94	9.69	10.73	11.69
	3H	14.63	15.55	15.42	16.35	17.34	10.11	11.03	10.90	11.83	12.82
	4H	15.25	16.11	16.05	16.92	17.92	10.57	11.43	11.37	12.24	13.24
	6H	15.67	16.47	16.49	17.29	18.30	10.89	11.68	11.71	12.50	13.52
	8H	15.80	16.56	16.63	17.39	18.41	10.98	11.74	11.81	12.58	13.60
	12H	15.87	16.59	16.70	17.42	18.46	11.03	11.75	11.87	12.58	13.63
4H	2H	12.99	13.85	13.80	14.66	15.66	9.53	10.39	10.34	11.20	12.21
	3H	14.83	15.54	15.65	16.39	17.41	10.89	11.60	11.71	12.45	13.47
	4H	15.52	16.17	16.36	17.01	18.06	11.44	12.09	12.28	12.93	13.98
	6H	16.04	16.60	16.89	17.47	18.52	11.86	12.42	12.72	13.29	14.34
	8H	16.22	16.74	17.07	17.60	18.67	11.99	12.52	12.85	13.38	14.44
	12H	16.32	16.79	17.19	17.67	18.74	12.06	12.53	12.94	13.42	14.49
8H	4H	15.50	16.03	16.36	16.89	17.95	11.73	12.25	12.59	13.12	14.18
	6H	16.07	16.50	16.95	17.41	18.47	12.25	12.68	13.13	13.58	14.65
	8H	16.28	16.67	17.18	17.56	18.65	12.43	12.82	13.33	13.72	14.80
	12H	16.42	16.76	17.32	17.65	18.79	12.56	12.89	13.45	13.79	14.92
12H	4H	15.46	15.93	16.34	16.82	17.89	11.74	12.21	12.62	13.10	14.17
	6H	16.04	16.43	16.94	17.33	18.41	12.30	12.68	13.19	13.58	14.66
	8H	16.27	16.61	17.16	17.50	18.63	12.51	12.85	13.41	13.74	14.87