

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: P915405

Luminaire Tested: DFN2DIP-TR3F0-080D030US927-RLONL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P915405
REPORT IS A COMBINATION OF REPORTS P901802 AND P898751
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-TR3F0-080D030US927-RLLONL
Description: 3 foot, Triangle Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Open No Lens
Light Source: -
Ballast/Driver: -

Summary

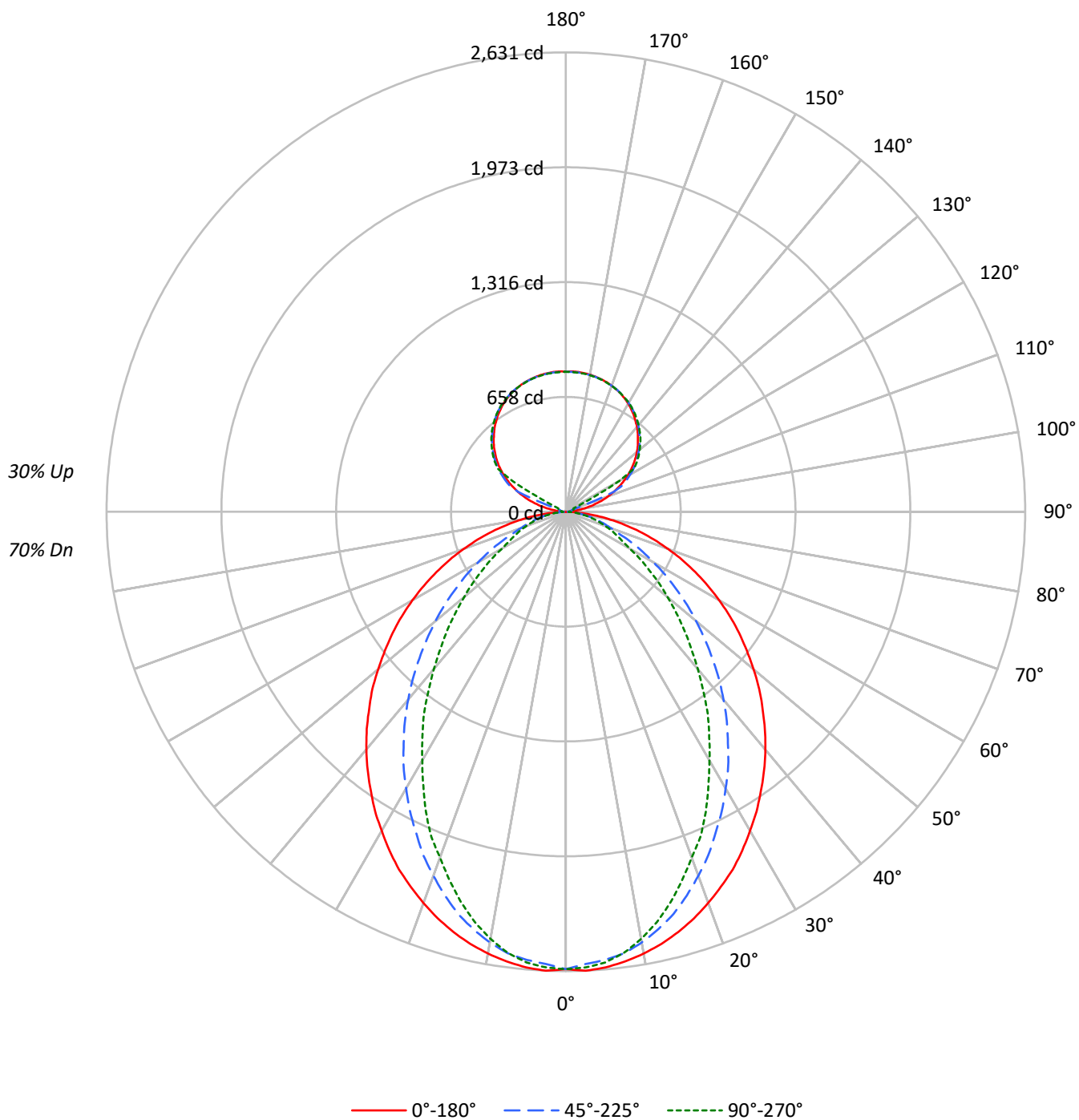
Lumens per Lamp: N/A
Luminaire Lumens: 7739.6 lumens
Efficiency: N/A
Efficacy: 74.7 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular w/ Sides (W: 2.74' x L: 3.16' x H: 0.1')
CIE Type: Semi-Direct

Input Watts (W): 103.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9968
Total Harmonic Distortion (THDi): 0.064
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	112	112	112	112	106	106	106	106	94	94	94	84	84	84	74	74	74
1	103	99	95	92	97	93	90	87	84	81	79	75	73	71	67	65	64
2	94	87	81	76	89	83	77	73	74	70	67	67	63	61	59	57	55
3	86	77	70	64	82	73	67	62	66	61	57	59	55	52	53	50	48
4	79	69	61	55	75	65	58	53	59	54	49	53	49	45	48	45	42
5	73	62	54	48	69	59	52	46	53	47	43	48	44	40	44	40	37
6	68	56	48	42	64	53	46	41	49	42	38	44	39	35	40	36	33
7	63	51	43	37	60	49	41	36	44	38	34	40	35	32	37	32	29
8	59	46	39	33	56	44	37	32	41	35	30	37	32	28	34	30	27
9	55	43	35	30	52	41	34	29	37	32	27	34	29	26	31	27	24
10	51	39	32	27	49	38	31	26	35	29	25	32	27	24	29	25	22

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3264	3264	3264
5°	3267	3209	3230
10°	3233	3144	3123
15°	3187	3037	2959
20°	3126	2891	2758
25°	3064	2728	2563
30°	2981	2562	2318
35°	2900	2383	2102
40°	2817	2197	1856
45°	2721	1993	1632
50°	2622	1786	1414
55°	2518	1566	1204
60°	2397	1336	989
65°	2258	1102	888
70°	2090	884	800
75°	1878	774	724
80°	1571	641	620
85°	1070	415	454

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 2721 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	245.5	3.2
10°-20°	673.9	8.7
20°-30°	946.1	12.2
30°-40°	1031.3	13.3
40°-50°	947.9	12.2
50°-60°	744.4	9.6
60°-70°	484.5	6.3
70°-80°	249.4	3.2
80°-90°	65.1	0.8
90°-100°	26.5	0.3
100°-110°	98.6	1.3
110°-120°	261.5	3.4
120°-130°	433.7	5.6
130°-140°	460.7	6.0
140°-150°	428.1	5.5
150°-160°	344.2	4.4
160°-170°	221.8	2.9
170°-180°	76.3	1.0
0°-30°	1865.5	24.1
0°-40°	2896.8	37.4
0°-60°	4589.2	59.3
0°-90°	5388.2	69.6
90°-120°	386.5	5.0
90°-150°	1709.0	22.1
90°-180°	2351.0	30.4
0°-180°	7739.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2619	2619	2619	2619	2619	
5°	2619	2608	2576	2598	2591	248
15°	2491	2465	2385	2340	2316	702
25°	2261	2186	2029	1932	1896	1040
35°	1948	1828	1619	1470	1417	1220
45°	1593	1434	1185	1017	960	1230
55°	1211	1026	770	628	583	1082
65°	818	626	412	332	325	811
75°	436	270	190	173	171	461
85°	102	52	45	45	45	117
90°	1	7	12	15	16	7
95°	38	18	23	26	25	45
105°	176	194	35	42	44	188
115°	334	344	358	89	48	329
125°	472	479	490	494	496	421
135°	584	593	598	604	603	451
145°	677	677	687	691	688	424
155°	746	741	748	751	746	344
165°	786	782	784	788	784	222
175°	804	800	801	805	799	76
180°	802	802	802	802	802	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2619.3	2619.3	2619.3	2619.3	2619.3
2.5°	2631.1	2619.3	2593.1	2617.0	2612.2
5°	2619.3	2607.5	2576.5	2597.9	2590.8
7.5°	2597.9	2583.8	2550.6	2559.9	2548.1
10°	2569.4	2552.9	2505.6	2498.3	2484.2
12.5°	2534.0	2512.6	2448.5	2434.4	2408.2
15°	2491.3	2465.1	2384.6	2339.6	2315.9
17.5°	2441.4	2403.5	2303.9	2251.9	2213.8
20°	2384.6	2337.1	2218.7	2159.6	2107.2
22.5°	2323.0	2268.4	2130.9	2050.4	2014.9
25°	2261.4	2185.5	2029.0	1932.0	1896.2
27.5°	2187.9	2107.2	1934.2	1822.8	1768.2
30°	2109.7	2019.4	1829.9	1709.1	1645.0
32.5°	2033.8	1924.7	1730.5	1588.2	1528.8
35°	1948.5	1827.6	1619.1	1469.7	1417.4
37.5°	1865.5	1735.0	1514.7	1351.0	1291.9
40°	1777.8	1635.7	1405.6	1237.3	1175.7
42.5°	1687.7	1536.1	1296.6	1121.2	1062.0
45°	1592.9	1434.0	1185.3	1016.8	960.0
47.5°	1502.9	1334.7	1078.6	910.1	858.1
50°	1403.3	1235.1	974.3	810.6	761.0
52.5°	1306.0	1128.1	874.6	718.3	673.3
55°	1211.2	1026.3	770.3	628.2	583.2
57.5°	1114.1	924.5	678.0	545.3	507.2
60°	1014.5	824.9	580.7	459.9	422.0
62.5°	917.4	727.8	497.7	384.0	365.2
65°	817.8	625.7	412.4	332.0	324.6
67.5°	723.0	530.9	332.0	291.4	284.5
70°	623.4	438.6	274.9	251.2	241.7
72.5°	528.6	353.1	229.9	211.0	206.2
75°	436.1	270.1	189.6	173.0	170.8
77.5°	343.8	191.9	149.4	139.8	135.1
80°	258.3	137.6	113.7	104.3	104.3
82.5°	180.1	92.5	78.2	73.4	73.4
85°	101.9	52.0	45.0	45.0	45.0
87.5°	37.9	18.9	18.9	16.6	16.6
90°	0.6	7.0	11.6	14.6	15.6
92.5°	14.6	12.2	13.9	15.1	15.6
95°	37.7	18.5	22.6	25.6	25.0
97.5°	67.9	20.4	29.5	31.4	31.9
100°	102.7	23.2	33.1	37.7	38.9
102.5°	141.0	139.9	34.2	40.6	42.4
105°	176.4	193.8	35.4	41.7	44.1
107.5°	217.6	232.1	36.6	42.9	45.3
110°	257.1	269.3	101.6	43.6	45.9

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	294.3	304.7	294.8	44.7	46.4
115°	333.7	343.6	358.1	89.4	47.6
117.5°	368.0	379.5	389.4	306.4	154.4
120°	406.2	414.9	425.4	432.4	354.0
122.5°	438.7	448.1	459.7	463.1	463.7
125°	471.8	479.3	490.4	494.5	496.2
127.5°	502.0	510.1	518.9	524.7	525.2
130°	530.4	539.8	546.1	552.5	552.0
132.5°	559.4	567.0	573.4	578.6	578.1
135°	583.8	593.2	598.3	604.2	603.0
137.5°	609.3	616.3	622.2	628.0	626.2
140°	634.3	639.0	645.3	650.5	647.7
142.5°	655.3	659.3	666.9	671.5	668.6
145°	677.3	676.7	686.6	690.6	687.7
147.5°	696.4	694.7	704.6	707.4	705.1
150°	715.0	711.0	720.3	723.7	720.8
152.5°	730.6	726.0	734.7	738.2	734.2
155°	745.8	740.6	747.5	751.0	746.4
157.5°	758.0	753.4	758.6	762.6	758.0
160°	768.4	764.9	768.4	771.9	767.8
162.5°	777.7	774.2	777.1	781.2	775.9
165°	785.8	782.4	784.1	788.1	784.1
167.5°	792.2	788.7	790.4	794.6	789.3
170°	797.4	793.9	795.1	799.2	793.9
172.5°	800.9	797.4	798.6	802.6	797.4
175°	803.7	799.7	800.9	804.9	799.2
177.5°	804.9	800.9	801.5	805.6	800.3
180°	802.1	802.1	802.1	802.1	802.1

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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	12.87	13.89	13.64	14.68	15.65	8.85	9.87	9.62	10.66	11.62
	3H	14.55	15.46	15.34	16.27	17.26	10.04	10.96	10.83	11.76	12.75
	4H	15.16	16.02	15.97	16.83	17.84	10.50	11.36	11.30	12.17	13.17
	6H	15.59	16.38	16.40	17.20	18.22	10.82	11.62	11.64	12.44	13.45
	8H	15.71	16.47	16.54	17.30	18.32	10.92	11.67	11.75	12.51	13.53
	12H	15.78	16.50	16.61	17.33	18.37	10.96	11.68	11.80	12.51	13.56
4H	2H	12.91	13.77	13.72	14.58	15.58	9.46	10.32	10.27	11.13	12.14
	3H	14.74	15.46	15.57	16.30	17.32	10.82	11.53	11.64	12.38	13.40
	4H	15.44	16.09	16.27	16.93	17.98	11.37	12.02	12.21	12.86	13.91
	6H	15.95	16.51	16.81	17.38	18.43	11.79	12.35	12.65	13.22	14.27
	8H	16.13	16.65	16.98	17.51	18.58	11.92	12.44	12.78	13.31	14.37
	12H	16.22	16.69	17.10	17.58	18.65	11.99	12.46	12.87	13.35	14.42
8H	4H	15.42	15.94	16.27	16.80	17.87	11.66	12.18	12.51	13.04	14.11
	6H	15.98	16.41	16.86	17.32	18.38	12.18	12.61	13.06	13.51	14.58
	8H	16.19	16.57	17.08	17.47	18.56	12.36	12.75	13.26	13.64	14.73
	12H	16.33	16.67	17.23	17.56	18.70	12.48	12.82	13.38	13.71	14.85
12H	4H	15.38	15.85	16.25	16.73	17.80	11.67	12.14	12.54	13.02	14.09
	6H	15.95	16.34	16.85	17.24	18.32	12.22	12.61	13.12	13.51	14.59
	8H	16.18	16.52	17.07	17.41	18.54	12.44	12.77	13.33	13.66	14.80