

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: P904379

Luminaire Tested: DFN2DIP-TR3F0-030D070US830-RLLONL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P904379
REPORT IS A COMBINATION OF REPORTS P901848 AND P898751
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-TR3F0-030D070US830-RLLONL
Description: 3 foot, Triangle Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Open No Lens
Light Source: -
Ballast/Driver: -

Summary

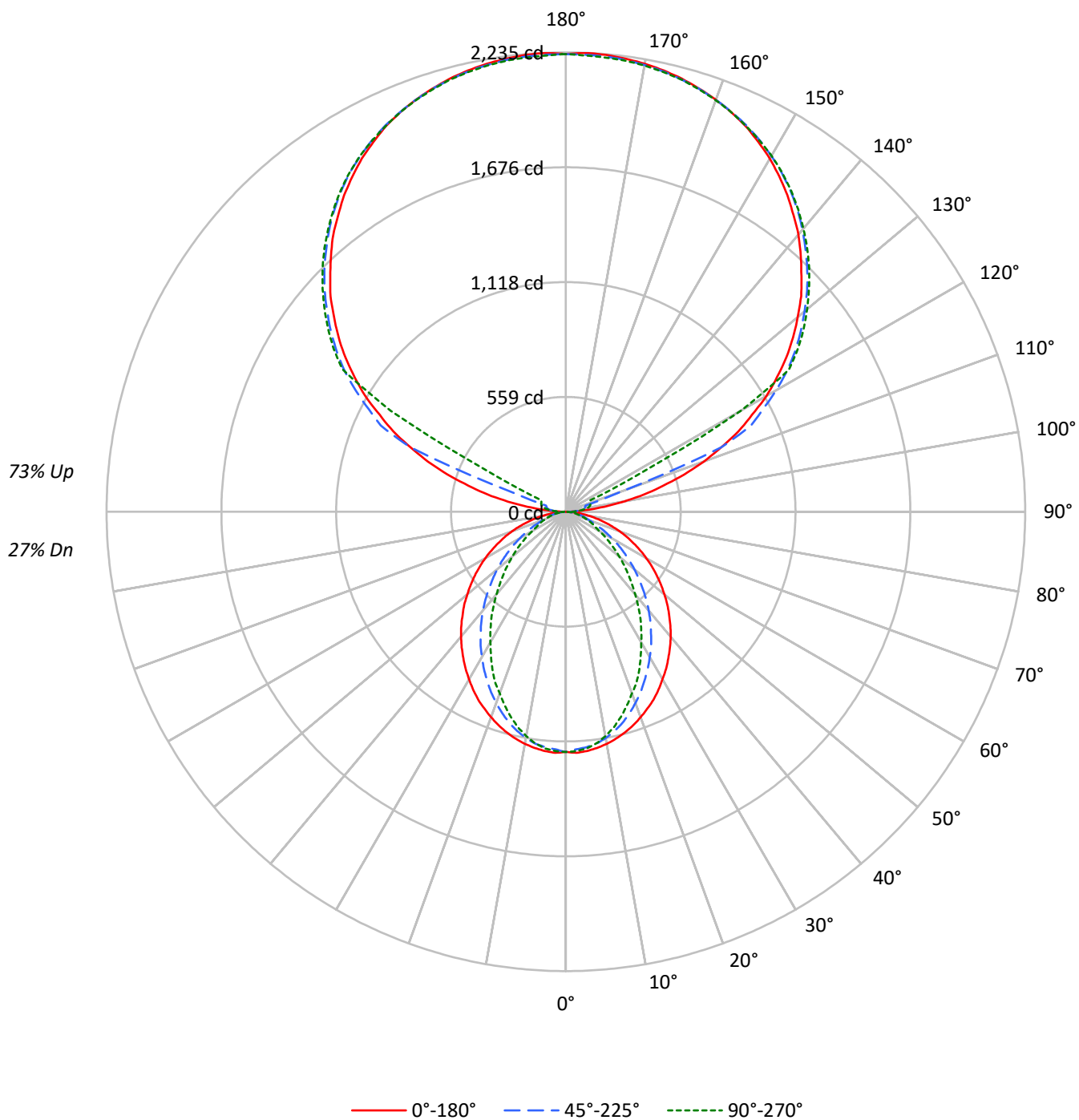
Lumens per Lamp: N/A
Luminaire Lumens: 8935.3 lumens
Efficiency: N/A
Efficacy: 115.7 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular w/ Sides (W: 2.74' x L: 3.16' x H: 0.1')
CIE Type: Semi-Indirect

Input Watts (W): 77.2
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	102	102	102	102		91	91	91	91		71	71	71		52	52	52		35	35	35
1	93	89	85	82		83	79	76	74		62	60	58		46	45	44		31	31	30
2	85	78	72	67		75	70	65	61		55	51	49		41	39	37		28	27	26
3	77	69	62	56		69	62	56	51		48	44	41		36	34	31		25	23	22
4	71	61	53	48		63	55	48	43		43	39	35		32	29	27		22	21	19
5	65	54	46	41		58	49	42	37		39	34	30		29	26	23		20	18	17
6	60	48	41	35		53	44	37	32		35	30	26		26	23	21		18	16	15
7	55	44	36	31		49	39	33	28		31	27	23		24	21	18		17	15	13
8	51	40	32	27		46	36	29	25		29	24	21		22	19	16		16	13	12
9	48	36	29	24		43	33	26	22		26	22	18		20	17	15		14	12	11
10	44	33	26	22		40	30	24	20		24	20	16		19	15	13		13	11	10

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1456	1456	1456
5°	1458	1432	1441
10°	1443	1403	1394
15°	1422	1355	1320
20°	1395	1290	1230
25°	1367	1217	1144
30°	1330	1143	1034
35°	1294	1063	938
40°	1257	981	828
45°	1214	889	728
50°	1170	797	631
55°	1123	699	537
60°	1069	596	441
65°	1008	492	396
70°	932	394	357
75°	837	345	323
80°	701	286	277
85°	477	185	203

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 90°

Luminance: 1483 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	109.5	1.2
10°-20°	300.7	3.4
20°-30°	422.1	4.7
30°-40°	460.2	5.1
40°-50°	422.9	4.7
50°-60°	332.2	3.7
60°-70°	216.2	2.4
70°-80°	111.3	1.2
80°-90°	32.3	0.4
90°-100°	73.4	0.8
100°-110°	273.7	3.1
110°-120°	725.9	8.1
120°-130°	1204.0	13.5
130°-140°	1278.9	14.3
140°-150°	1188.6	13.3
150°-160°	955.6	10.7
160°-170°	615.8	6.9
170°-180°	211.9	2.4
0°-30°	832.3	9.3
0°-40°	1292.5	14.5
0°-60°	2047.6	22.9
0°-90°	2407.4	26.9
90°-120°	1073.0	12.0
90°-150°	4744.6	53.1
90°-180°	6528.0	73.1
0°-180°	8935.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1169	1169	1169	1169	1169	
5°	1169	1163	1150	1159	1156	111
15°	1112	1100	1064	1044	1033	313
25°	1009	975	905	862	846	464
35°	869	815	722	656	632	544
45°	711	640	529	454	428	549
55°	540	458	344	280	260	483
65°	365	279	184	148	145	362
75°	194	121	85	77	76	206
85°	45	23	20	20	20	52
90°	2	19	32	40	44	8
95°	105	52	63	71	69	124
105°	490	538	98	116	122	523
115°	926	954	994	248	132	912
125°	1310	1331	1362	1373	1378	1168
135°	1621	1647	1661	1677	1674	1252
145°	1880	1879	1906	1917	1909	1176
155°	2070	2056	2075	2085	2072	954
165°	2182	2172	2177	2188	2177	616
175°	2232	2220	2224	2235	2219	212
180°	2227	2227	2227	2227	2227	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1168.7	1168.7	1168.7	1168.7	1168.7
2.5°	1173.9	1168.7	1157.0	1167.6	1165.5
5°	1168.7	1163.4	1149.6	1159.1	1155.9
7.5°	1159.1	1152.8	1138.0	1142.2	1136.9
10°	1146.4	1139.1	1117.9	1114.7	1108.4
12.5°	1130.6	1121.1	1092.5	1086.2	1074.5
15°	1111.5	1099.9	1063.9	1043.9	1033.3
17.5°	1089.3	1072.4	1027.9	1004.8	987.8
20°	1063.9	1042.7	989.9	963.6	940.2
22.5°	1036.5	1012.1	950.7	914.8	899.0
25°	1009.0	975.1	905.3	862.0	846.0
27.5°	976.2	940.2	863.0	813.3	788.9
30°	941.3	901.1	816.4	762.6	734.0
32.5°	907.4	858.8	772.1	708.6	682.1
35°	869.4	815.4	722.4	655.7	632.4
37.5°	832.4	774.1	675.8	602.8	576.5
40°	793.2	729.8	627.2	552.0	524.6
42.5°	753.0	685.4	578.5	500.2	473.8
45°	710.8	639.8	528.9	453.6	428.3
47.5°	670.5	595.5	481.3	406.0	382.9
50°	626.1	551.0	434.7	361.7	339.5
52.5°	582.7	503.4	390.3	320.5	300.4
55°	540.4	457.9	343.7	280.3	260.2
57.5°	497.1	412.5	302.6	243.3	226.3
60°	452.6	368.1	259.1	205.2	188.3
62.5°	409.3	324.7	222.1	171.4	163.0
65°	364.9	279.2	184.0	148.1	144.9
67.5°	322.6	236.9	148.1	130.1	126.9
70°	278.1	195.7	122.6	112.1	107.8
72.5°	235.8	157.5	102.5	94.2	92.0
75°	194.5	120.6	84.6	77.2	76.2
77.5°	153.4	85.6	66.6	62.4	60.2
80°	115.3	61.4	50.7	46.6	46.6
82.5°	80.3	41.3	34.9	32.8	32.8
85°	45.4	23.2	20.1	20.1	20.1
87.5°	17.0	8.4	8.4	7.4	7.4
90°	1.5	19.3	32.1	40.3	43.5
92.5°	40.3	33.8	38.6	41.9	43.5
95°	104.6	51.5	62.8	71.0	69.3
97.5°	188.4	56.5	82.1	87.1	88.6
100°	285.3	64.5	91.8	104.6	107.9
102.5°	391.4	388.4	95.1	112.7	117.6
105°	489.8	538.2	98.3	115.9	122.4
107.5°	604.2	644.4	101.6	119.2	125.7
110°	713.9	747.5	282.0	120.9	127.2

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	817.0	845.8	818.5	123.9	128.9
115°	926.4	953.8	994.1	248.2	132.2
117.5°	1021.5	1053.7	1081.2	850.6	428.6
120°	1127.8	1152.0	1181.1	1200.4	982.9
122.5°	1218.0	1243.8	1276.2	1285.7	1287.4
125°	1309.9	1330.9	1361.5	1372.8	1377.5
127.5°	1393.6	1416.2	1440.5	1456.6	1458.1
130°	1472.6	1498.5	1516.1	1533.9	1532.4
132.5°	1553.2	1574.2	1591.9	1606.4	1604.9
135°	1620.9	1646.7	1661.1	1677.3	1674.1
137.5°	1691.7	1711.1	1727.3	1743.4	1738.6
140°	1761.0	1774.0	1791.6	1806.1	1798.1
142.5°	1819.1	1830.4	1851.2	1864.1	1856.1
145°	1880.4	1878.7	1906.0	1917.3	1909.3
147.5°	1933.3	1928.6	1956.0	1964.0	1957.7
150°	1985.0	1973.8	1999.6	2009.1	2001.1
152.5°	2028.4	2015.6	2039.8	2049.5	2038.2
155°	2070.4	2056.0	2075.3	2084.9	2072.1
157.5°	2104.2	2091.4	2105.9	2117.2	2104.2
160°	2133.4	2123.5	2133.4	2142.9	2131.6
162.5°	2159.0	2149.4	2157.4	2168.7	2154.2
165°	2181.5	2172.0	2176.7	2188.0	2176.7
167.5°	2199.3	2189.5	2194.5	2205.8	2191.3
170°	2213.8	2204.1	2207.3	2218.7	2204.1
172.5°	2223.5	2213.8	2217.1	2228.4	2213.8
175°	2231.5	2220.2	2223.5	2234.7	2218.7
177.5°	2234.7	2223.5	2225.2	2236.5	2221.9
180°	2226.7	2226.7	2226.7	2226.7	2226.7

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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	5.73	6.40	6.87	7.53	9.10	1.71	2.38	2.85	3.50	5.07
	3H	7.39	7.99	8.53	9.12	10.70	2.88	3.48	4.02	4.61	6.20
	4H	7.98	8.55	9.14	9.68	11.27	3.32	3.89	4.47	5.02	6.61
	6H	8.39	8.91	9.55	10.05	11.65	3.63	4.15	4.79	5.29	6.89
	8H	8.50	9.00	9.67	10.15	11.75	3.71	4.21	4.87	5.36	6.95
	12H	8.56	9.03	9.73	10.17	11.79	3.75	4.22	4.91	5.36	6.98
4H	2H	5.73	6.30	6.89	7.43	9.02	2.28	2.85	3.44	3.98	5.57
	3H	7.53	8.01	8.70	9.17	10.77	3.61	4.08	4.77	5.24	6.84
	4H	8.21	8.65	9.38	9.79	11.42	4.14	4.58	5.31	5.73	7.35
	6H	8.71	9.08	9.88	10.25	11.86	4.55	4.92	5.72	6.09	7.70
	8H	8.88	9.22	10.05	10.39	12.01	4.67	5.02	5.84	6.18	7.81
	12H	8.96	9.27	10.15	10.45	12.08	4.73	5.04	5.91	6.21	7.85
8H	4H	8.17	8.51	9.34	9.68	11.30	4.41	4.76	5.58	5.92	7.54
	6H	8.72	9.00	9.91	10.21	11.83	4.91	5.20	6.10	6.40	8.03
	8H	8.93	9.18	10.12	10.36	12.00	5.10	5.35	6.29	6.53	8.17
	12H	9.05	9.27	10.25	10.45	12.12	5.21	5.42	6.41	6.60	8.28
12H	4H	8.11	8.43	9.30	9.60	11.23	4.40	4.72	5.59	5.89	7.52
	6H	8.69	8.94	9.89	10.12	11.77	4.96	5.21	6.15	6.39	8.03
	8H	8.90	9.12	10.10	10.30	11.97	5.16	5.38	6.36	6.56	8.23

END OF REPORT