

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: P920749

Luminaire Tested: DFN2DIP-TR3F0-030D080US935-FLLONL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P920749
REPORT IS A COMBINATION OF REPORTS P901861 AND P898751
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-TR3F0-030D080US935-FLLONL
Description: 3 foot, Triangle Define Geo, with Direct Frosted Lens, Indirect Open No Lens
Light Source: -
Ballast/Driver: -

Summary

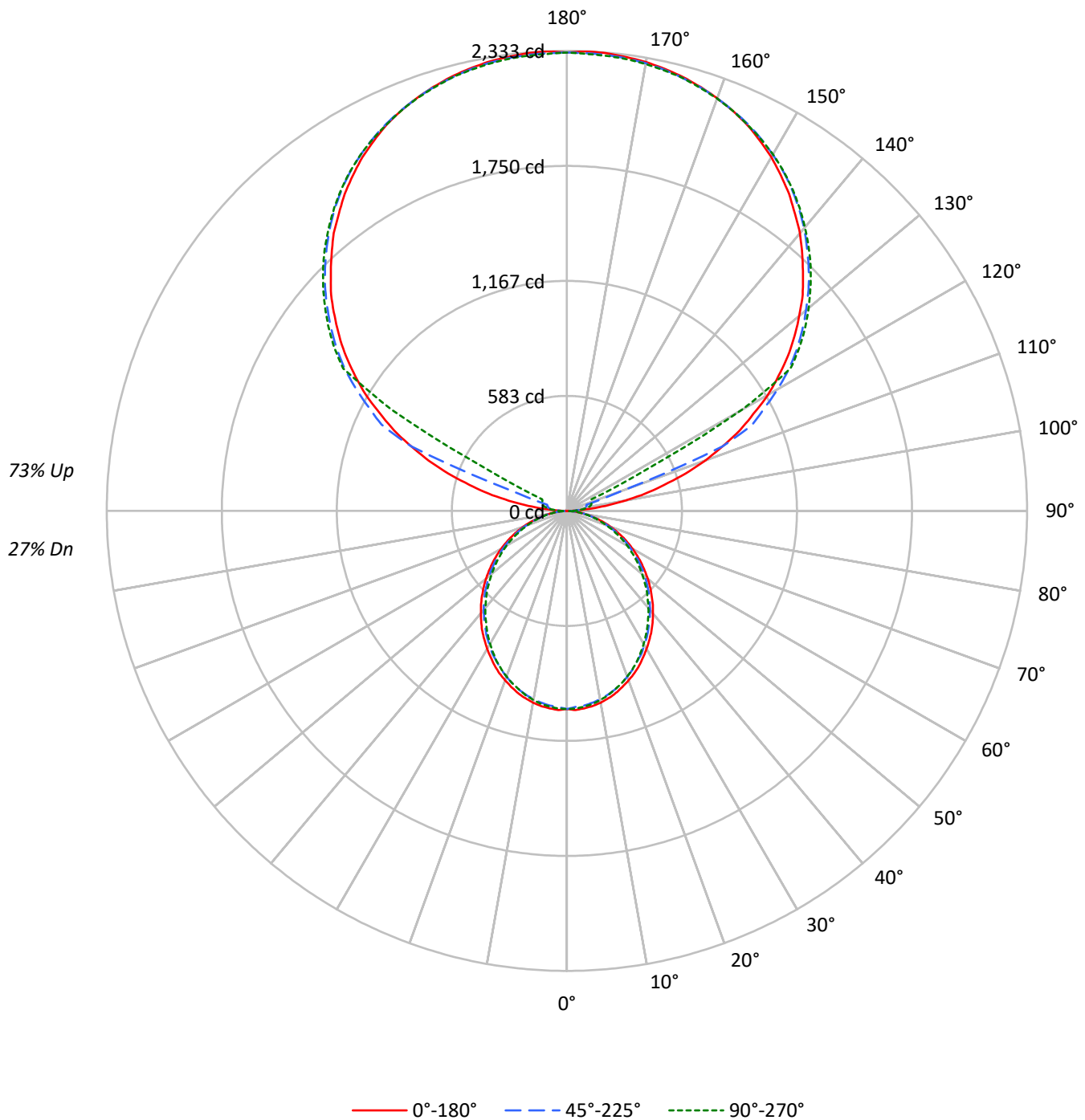
Lumens per Lamp: N/A
Luminaire Lumens: 9376.3 lumens
Efficiency: N/A
Efficacy: 110.2 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular w/ Sides (W: 2.74' x L: 3.16' x H: 0.1')
CIE Type: Semi-Indirect

Input Watts (W): 85.1
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

TEST NUMBER: P920749

CATALOG NUMBER: DFN2DIP-TR3F0-030D080US935-FLLONL

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	81	83	79	76	73	62	60	58	46	45	43	31	30	30
2	84	77	71	66	75	69	64	60	54	51	48	40	38	36	27	26	25
3	77	68	61	55	68	61	55	50	48	44	40	36	33	31	24	23	21
4	70	60	52	47	63	54	47	42	42	38	34	32	29	26	22	20	18
5	64	53	45	40	57	48	41	36	38	33	29	28	25	23	19	18	16
6	59	48	40	34	53	43	36	31	34	29	25	25	22	20	18	16	14
7	55	43	35	30	49	39	32	27	31	26	22	23	20	17	16	14	12
8	51	39	31	26	45	35	28	24	28	23	20	21	18	15	15	13	11
9	47	35	28	23	42	32	26	21	25	21	17	19	16	14	14	12	10
10	44	32	25	21	39	29	23	19	23	19	16	18	15	12	13	11	9

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1252	1252	1252
5°	1254	1234	1242
10°	1243	1216	1225
15°	1224	1195	1198
20°	1198	1166	1170
25°	1173	1132	1138
30°	1142	1100	1098
35°	1112	1062	1055
40°	1075	1024	1014
45°	1039	986	973
50°	998	946	925
55°	956	900	880
60°	909	845	829
65°	857	788	769
70°	790	718	704
75°	699	635	643
80°	588	528	528
85°	416	347	341

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 90°

Luminance: 1547 cd/sqm

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CATALOG NUMBER: DFN2DIP-TR3F0-030D080US935-FLLONL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	94.6	1.0
10°-20°	266.2	2.8
20°-30°	391.1	4.2
30°-40°	454.3	4.8
40°-50°	453.7	4.8
50°-60°	395.6	4.2
60°-70°	292.5	3.1
70°-80°	165.5	1.8
80°-90°	47.8	0.5
90°-100°	76.7	0.8
100°-110°	285.7	3.0
110°-120°	757.9	8.1
120°-130°	1256.9	13.4
130°-140°	1335.2	14.2
140°-150°	1240.9	13.2
150°-160°	997.6	10.6
160°-170°	642.8	6.9
170°-180°	221.3	2.4
0°-30°	751.9	8.0
0°-40°	1206.2	12.9
0°-60°	2055.6	21.9
0°-90°	2561.3	27.3
90°-120°	1120.2	11.9
90°-150°	4953.3	52.8
90°-180°	6815.0	72.7
0°-180°	9376.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1005	1005	1005	1005	1005	
5°	1005	1001	991	998	996	95
15°	957	951	938	942	938	269
25°	866	858	842	844	842	398
35°	747	737	722	716	711	467
45°	608	601	587	576	572	469
55°	460	454	443	431	426	411
65°	310	304	295	286	281	307
75°	162	160	156	150	152	173
85°	40	39	38	35	34	44
90°	2	20	34	42	45	9
95°	109	54	66	74	72	129
105°	511	562	103	121	128	546
115°	967	996	1038	259	138	952
125°	1367	1389	1421	1433	1438	1220
135°	1692	1719	1734	1751	1748	1307
145°	1963	1961	1990	2002	1993	1228
155°	2161	2146	2167	2177	2163	996
165°	2278	2268	2272	2284	2272	643
175°	2330	2318	2321	2333	2316	222
180°	2325	2325	2325	2325	2325	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1005.0	1005.0	1005.0	1005.0	1005.0
2.5°	1010.9	1006.1	995.4	1005.0	1003.2
5°	1005.0	1001.3	990.6	998.3	996.4
7.5°	998.3	992.6	981.9	989.7	987.7
10°	987.7	980.9	969.4	977.1	974.2
12.5°	973.2	967.4	955.9	960.6	958.7
15°	956.7	951.1	938.4	942.3	937.5
17.5°	936.4	930.7	918.1	922.9	918.1
20°	914.2	908.4	894.9	897.8	894.0
22.5°	892.1	883.4	870.7	870.7	868.7
25°	865.9	858.2	841.8	843.7	841.8
27.5°	836.9	830.1	817.6	814.8	809.9
30°	808.0	800.2	785.7	782.8	778.9
32.5°	777.1	771.3	755.8	749.9	746.1
35°	747.1	737.4	721.9	716.1	711.3
37.5°	713.3	704.6	689.1	682.3	677.4
40°	678.5	670.7	655.2	646.6	642.7
42.5°	644.6	636.9	621.5	611.7	606.0
45°	608.0	601.1	586.6	576.0	572.1
47.5°	572.1	565.4	549.9	539.2	533.5
50°	534.4	529.6	516.1	502.6	497.7
52.5°	497.7	490.9	478.5	467.8	461.0
55°	460.1	454.3	442.6	431.1	426.3
57.5°	422.3	417.5	404.9	393.3	389.4
60°	384.6	380.8	367.3	356.6	353.8
62.5°	347.9	341.1	331.5	321.8	318.0
65°	310.3	304.4	294.8	286.1	281.3
67.5°	271.6	266.7	258.0	251.3	247.5
70°	235.8	232.0	223.3	216.5	212.7
72.5°	199.1	195.2	190.4	183.7	180.8
75°	162.3	160.5	155.6	149.8	151.8
77.5°	129.5	125.6	123.6	120.8	118.0
80°	96.7	95.7	93.7	90.8	88.9
82.5°	65.7	65.7	64.8	60.9	60.9
85°	39.6	38.7	37.7	34.8	33.8
87.5°	17.4	15.5	13.5	10.7	9.6
90°	1.6	20.1	33.6	42.1	45.4
92.5°	42.1	35.4	40.4	43.7	45.4
95°	109.3	53.7	65.5	74.1	72.3
97.5°	196.7	58.9	85.7	90.9	92.5
100°	297.8	67.3	95.9	109.3	112.6
102.5°	408.7	405.4	99.3	117.6	122.9
105°	511.3	561.9	102.6	121.1	127.9
107.5°	630.8	672.7	106.1	124.4	131.2
110°	745.3	780.4	294.5	126.2	132.9

TEST NUMBER: P920749

CATALOG NUMBER: DFN2DIP-TR3F0-030D080US935-FLLONL

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	852.9	883.0	854.5	129.4	134.7
115°	967.2	995.7	1037.8	259.1	138.0
117.5°	1066.4	1100.0	1128.8	888.0	447.5
120°	1177.5	1202.6	1233.0	1253.2	1026.1
122.5°	1271.5	1298.6	1332.3	1342.3	1344.1
125°	1367.4	1389.4	1421.3	1433.1	1438.1
127.5°	1454.9	1478.5	1503.9	1520.6	1522.2
130°	1537.4	1564.3	1582.8	1601.4	1599.7
132.5°	1621.5	1643.5	1661.9	1677.1	1675.4
135°	1692.2	1719.2	1734.1	1751.2	1747.7
137.5°	1766.2	1786.3	1803.3	1820.1	1815.1
140°	1838.4	1852.0	1870.4	1885.6	1877.1
142.5°	1899.2	1910.9	1932.7	1946.1	1937.7
145°	1963.1	1961.3	1989.9	2001.6	1993.2
147.5°	2018.4	2013.4	2041.9	2050.4	2043.8
150°	2072.3	2060.5	2087.5	2097.5	2089.1
152.5°	2117.7	2104.3	2129.4	2139.7	2127.9
155°	2161.4	2146.5	2166.6	2176.6	2163.3
157.5°	2196.7	2183.4	2198.6	2210.4	2196.7
160°	2227.1	2217.0	2227.1	2237.1	2225.3
162.5°	2253.9	2243.9	2252.3	2264.1	2248.9
165°	2277.5	2267.5	2272.5	2284.2	2272.5
167.5°	2296.0	2285.9	2291.0	2302.8	2287.7
170°	2311.3	2301.0	2304.5	2316.3	2301.0
172.5°	2321.3	2311.3	2314.6	2326.4	2311.3
175°	2329.6	2317.8	2321.3	2333.0	2316.3
177.5°	2333.0	2321.3	2323.0	2334.8	2319.6
180°	2324.6	2324.6	2324.6	2324.6	2324.6

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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	5.41	6.10	6.54	7.22	8.78	4.98	5.67	6.11	6.79	8.35
	3H	7.05	7.66	8.18	8.79	10.37	6.58	7.19	7.72	8.32	9.90
	4H	7.62	8.20	8.77	9.34	10.92	7.15	7.74	8.30	8.87	10.45
	6H	8.00	8.54	9.16	9.67	11.27	7.53	8.07	8.69	9.21	10.80
	8H	8.10	8.61	9.26	9.76	11.35	7.63	8.14	8.79	9.29	10.88
	12H	8.14	8.62	9.30	9.77	11.38	7.66	8.15	8.83	9.29	10.90
4H	2H	5.84	6.43	7.00	7.56	9.14	5.50	6.09	6.66	7.22	8.80
	3H	7.68	8.17	8.84	9.33	10.92	7.29	7.78	8.46	8.94	10.54
	4H	8.38	8.83	9.55	9.98	11.59	7.98	8.43	9.15	9.58	11.19
	6H	8.88	9.27	10.05	10.43	12.04	8.48	8.86	9.64	10.03	11.63
	8H	9.02	9.38	10.19	10.54	12.16	8.62	8.97	9.78	10.13	11.76
	12H	9.08	9.41	10.26	10.58	12.20	8.67	8.99	9.85	10.16	11.79
8H	4H	8.56	8.92	9.73	10.08	11.70	8.21	8.57	9.37	9.72	11.35
	6H	9.18	9.47	10.36	10.67	12.29	8.82	9.11	10.00	10.32	11.93
	8H	9.39	9.65	10.58	10.83	12.46	9.02	9.28	10.22	10.46	12.10
	12H	9.50	9.73	10.70	10.91	12.58	9.13	9.35	10.32	10.53	12.20
12H	4H	8.54	8.86	9.72	10.04	11.66	8.19	8.52	9.37	9.69	11.31
	6H	9.20	9.46	10.39	10.64	12.28	8.85	9.11	10.05	10.29	11.93
	8H	9.43	9.66	10.62	10.83	12.50	9.08	9.30	10.27	10.48	12.15

END OF REPORT