

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: P918178

Luminaire Tested: DFN2DIP-TR3F0-090D080US930-RLFL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P918178
REPORT IS A COMBINATION OF REPORTS P900354 AND P897195
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-TR3F0-090D080US930-RLLFLL
Description: 3 foot, Triangle Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

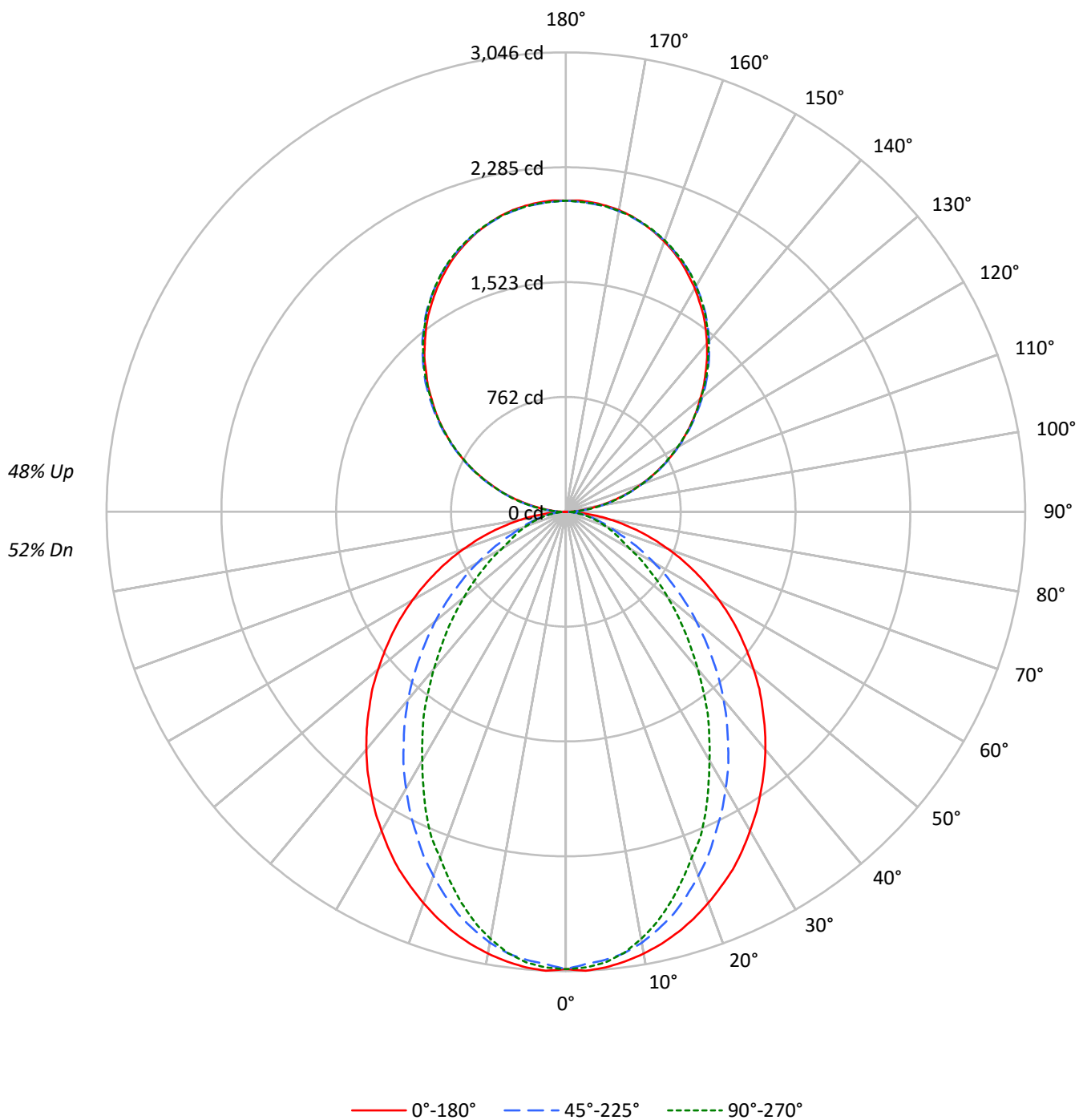
Lumens per Lamp: N/A
Luminaire Lumens: 12009.4 lumens
Efficiency: N/A
Efficacy: 77.0 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular w/ Sides (W: 2.74' x L: 3.16' x H: 0.1')
CIE Type: General Diffuse

Input Watts (W): 156
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9951
Total Harmonic Distortion (THDi): 0.07
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

TEST NUMBER: P918178

CATALOG NUMBER: DFN2DIP-TR3F0-090D080US930-RLLFLL

Luminous Intensity Polar Plot



TEST NUMBER: P918178

CATALOG NUMBER: DFN2DIP-TR3F0-090D080US930-RLLFLL

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	108	108	108	108	100	100	100	100	84	84	84	71	71	71	58	58	58
1	99	95	91	88	91	88	84	82	75	72	70	63	61	60	52	51	50
2	90	83	77	72	83	77	72	68	66	62	59	56	53	51	46	44	43
3	83	74	66	61	76	68	62	57	59	54	50	50	46	44	42	39	37
4	76	65	58	52	70	61	54	49	53	47	43	45	41	38	37	35	32
5	70	59	51	45	65	55	48	42	47	42	38	40	36	33	34	31	28
6	65	53	45	39	60	49	42	37	43	37	33	37	32	29	31	28	25
7	60	48	40	35	55	45	38	33	39	33	29	34	29	26	28	25	23
8	56	44	36	31	51	41	34	29	36	30	26	31	27	23	26	23	21
9	52	40	33	28	48	37	31	26	33	27	24	28	24	21	24	21	19
10	49	37	30	25	45	34	28	24	30	25	21	26	22	19	23	19	17

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3779	3779	3779
5°	3783	3716	3740
10°	3743	3640	3616
15°	3690	3516	3426
20°	3620	3348	3193
25°	3548	3159	2968
30°	3452	2966	2684
35°	3358	2758	2434
40°	3262	2544	2148
45°	3151	2307	1889
50°	3035	2068	1637
55°	2915	1813	1394
60°	2775	1547	1145
65°	2614	1276	1028
70°	2420	1024	926
75°	2174	896	838
80°	1820	741	718
85°	1238	480	525

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 3151 cd/sqm

TEST NUMBER: P918178

CATALOG NUMBER: DFN2DIP-TR3F0-090D080US930-RLLFLL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	284.2	2.4
10°-20°	780.3	6.5
20°-30°	1095.5	9.1
30°-40°	1194.1	9.9
40°-50°	1097.5	9.1
50°-60°	861.9	7.2
60°-70°	561.0	4.7
70°-80°	288.8	2.4
80°-90°	79.6	0.7
90°-100°	127.6	1.1
100°-110°	405.6	3.4
110°-120°	694.1	5.8
120°-130°	912.8	7.6
130°-140°	1024.6	8.5
140°-150°	1004.7	8.4
150°-160°	842.8	7.0
160°-170°	558.9	4.7
170°-180°	195.4	1.6
0°-30°	2159.9	18.0
0°-40°	3354.0	27.9
0°-60°	5313.5	44.2
0°-90°	6242.9	52.0
90°-120°	1227.3	10.2
90°-150°	4169.4	34.7
90°-180°	5766.0	48.0
0°-180°	12009.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3033	3033	3033	3033	3033	
5°	3033	3019	2983	3008	3000	288
15°	2884	2854	2761	2709	2682	813
25°	2618	2530	2349	2237	2196	1204
35°	2256	2116	1875	1702	1641	1412
45°	1844	1660	1372	1177	1111	1424
55°	1402	1188	892	727	675	1253
65°	947	724	478	384	376	939
75°	505	313	220	200	198	534
85°	118	60	52	52	52	135
90°	2	22	61	57	59	12
95°	91	108	111	111	108	101
105°	374	379	383	386	386	395
115°	696	706	703	702	696	689
125°	1013	1029	1024	1018	1016	905
135°	1310	1330	1333	1332	1326	1013
145°	1591	1603	1613	1615	1608	994
155°	1819	1824	1830	1838	1833	837
165°	1979	1977	1977	1989	1981	558
175°	2059	2054	2050	2063	2052	196
180°	2063	2063	2063	2063	2063	

TEST NUMBER: P918178

CATALOG NUMBER: DFN2DIP-TR3F0-090D080US930-RLLFLL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3032.7	3032.7	3032.7	3032.7	3032.7
2.5°	3046.4	3032.7	3002.3	3030.1	3024.5
5°	3032.7	3019.0	2983.2	3007.9	2999.7
7.5°	3007.9	2991.6	2953.2	2963.9	2950.2
10°	2975.0	2955.8	2901.1	2892.6	2876.3
12.5°	2933.9	2909.2	2835.0	2818.6	2788.3
15°	2884.4	2854.2	2761.0	2708.8	2681.5
17.5°	2826.8	2782.9	2667.5	2607.2	2563.3
20°	2761.0	2706.0	2568.8	2500.4	2439.8
22.5°	2689.7	2626.5	2467.2	2374.0	2333.0
25°	2618.3	2530.4	2349.3	2236.9	2195.5
27.5°	2533.3	2439.8	2239.5	2110.5	2047.3
30°	2442.7	2338.2	2118.6	1978.9	1904.6
32.5°	2354.7	2228.4	2003.6	1838.8	1770.1
35°	2256.1	2116.0	1874.6	1701.7	1641.1
37.5°	2160.0	2008.9	1753.8	1564.2	1495.8
40°	2058.4	1893.9	1627.4	1432.6	1361.3
42.5°	1954.1	1778.6	1501.3	1298.1	1229.6
45°	1844.4	1660.4	1372.3	1177.2	1111.4
47.5°	1740.1	1545.3	1248.9	1053.8	993.5
50°	1624.8	1430.0	1128.0	938.5	881.1
52.5°	1512.1	1306.3	1012.8	831.6	779.5
55°	1402.3	1188.3	891.9	727.4	675.2
57.5°	1290.0	1070.4	785.1	631.3	587.3
60°	1174.6	955.0	672.4	532.6	488.6
62.5°	1062.3	842.7	576.3	444.7	422.8
65°	946.9	724.5	477.5	384.3	375.9
67.5°	837.1	614.7	384.3	337.5	329.3
70°	721.9	507.8	318.3	290.9	279.8
72.5°	612.0	408.8	266.1	244.3	238.8
75°	504.9	312.7	219.6	200.3	197.7
77.5°	398.0	222.2	172.9	161.9	156.4
80°	299.1	159.3	131.6	120.8	120.8
82.5°	208.5	107.1	90.6	85.0	85.0
85°	117.9	60.3	52.1	52.1	52.1
87.5°	43.9	21.8	21.8	19.2	19.2
90°	1.9	22.4	61.0	57.2	59.1
92.5°	38.6	52.3	54.1	55.9	55.9
95°	90.8	108.2	111.3	111.3	108.2
97.5°	151.2	167.3	174.1	174.1	174.1
100°	220.8	235.1	240.0	240.0	238.1
102.5°	294.2	304.8	311.5	313.4	311.5
105°	374.4	379.4	383.1	386.2	386.2
107.5°	454.0	461.5	461.5	462.7	454.0
110°	531.1	541.0	541.0	541.0	536.1

TEST NUMBER: P918178

CATALOG NUMBER: DFN2DIP-TR3F0-090D080US930-RLLFLL

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	614.4	625.0	623.1	618.2	614.4
115°	696.5	706.5	703.4	701.5	696.5
117.5°	778.0	791.7	782.9	778.0	773.0
120°	860.1	873.8	860.1	860.1	854.4
122.5°	934.7	952.1	943.4	938.4	934.7
125°	1013.0	1028.6	1023.6	1018.0	1016.2
127.5°	1089.6	1108.8	1102.0	1094.5	1089.6
130°	1161.1	1183.4	1180.3	1176.6	1169.8
132.5°	1241.3	1258.7	1260.0	1251.2	1246.3
135°	1310.3	1329.6	1333.3	1331.5	1326.5
137.5°	1387.4	1403.0	1406.1	1404.8	1397.3
140°	1455.2	1470.7	1479.4	1479.4	1472.6
142.5°	1524.9	1540.4	1545.4	1547.3	1540.4
145°	1590.8	1603.2	1613.1	1615.0	1608.2
147.5°	1649.8	1665.4	1672.8	1676.0	1669.2
150°	1710.8	1721.3	1728.2	1733.8	1728.2
152.5°	1764.9	1775.5	1784.2	1791.0	1784.2
155°	1819.0	1824.0	1829.6	1838.3	1832.7
157.5°	1865.6	1869.4	1872.5	1884.9	1876.2
160°	1907.3	1911.1	1912.9	1923.5	1916.0
162.5°	1945.9	1945.9	1947.7	1959.6	1950.8
165°	1978.8	1976.9	1976.9	1989.4	1980.7
167.5°	2008.7	2003.1	2003.1	2015.5	2006.8
170°	2031.1	2026.1	2024.2	2036.7	2026.1
172.5°	2046.6	2041.7	2039.8	2052.2	2041.7
175°	2059.0	2054.1	2050.3	2062.8	2052.2
177.5°	2065.9	2060.9	2057.2	2067.8	2057.2
180°	2062.8	2062.8	2062.8	2062.8	2062.8

TEST NUMBER: P918178

CATALOG NUMBER: DFN2DIP-TR3F0-090D080US930-RLLFLL

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	11.90	12.74	12.84	13.70	14.95	7.87	8.72	8.82	9.68	10.92
	3H	13.57	14.32	14.52	15.29	16.56	9.06	9.82	10.02	10.78	12.05
	4H	14.17	14.88	15.14	15.86	17.13	9.51	10.22	10.48	11.19	12.47
	6H	14.58	15.24	15.57	16.22	17.51	9.82	10.48	10.81	11.46	12.75
	8H	14.71	15.33	15.70	16.33	17.61	9.91	10.54	10.90	11.53	12.82
	12H	14.76	15.36	15.76	16.35	17.66	9.95	10.55	10.95	11.53	12.85
4H	2H	11.92	12.63	12.89	13.60	14.88	8.47	9.18	9.44	10.15	11.43
	3H	13.74	14.33	14.72	15.33	16.62	9.81	10.41	10.80	11.41	12.70
	4H	14.42	14.96	15.42	15.96	17.27	10.35	10.90	11.35	11.89	13.21
	6H	14.93	15.40	15.94	16.41	17.73	10.77	11.24	11.78	12.25	13.57
	8H	15.10	15.53	16.11	16.55	17.87	10.89	11.33	11.90	12.34	13.67
	12H	15.19	15.58	16.22	16.61	17.94	10.96	11.35	11.98	12.38	13.71
8H	4H	14.39	14.82	15.40	15.84	17.16	10.63	11.07	11.64	12.08	13.40
	6H	14.95	15.31	15.98	16.36	17.68	11.14	11.50	12.17	12.55	13.88
	8H	15.16	15.47	16.20	16.51	17.86	11.33	11.64	12.37	12.68	14.03
	12H	15.29	15.57	16.33	16.60	17.99	11.44	11.72	12.49	12.75	14.14
12H	4H	14.34	14.73	15.37	15.76	17.09	10.63	11.03	11.66	12.05	13.39
	6H	14.92	15.24	15.96	16.28	17.62	11.19	11.51	12.23	12.54	13.89
	8H	15.14	15.41	16.18	16.45	17.83	11.39	11.67	12.44	12.71	14.09