

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: P923608

Luminaire Tested: DFN2DIP-TR3F0-080D080US940-RLLFLL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P923608
REPORT IS A COMBINATION OF REPORTS P900352 AND P897195
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-TR3F0-080D080US940-RLLFLL
Description: 3 foot, Triangle Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Frosted Lens
Light Source: -
Ballast/Driver: -

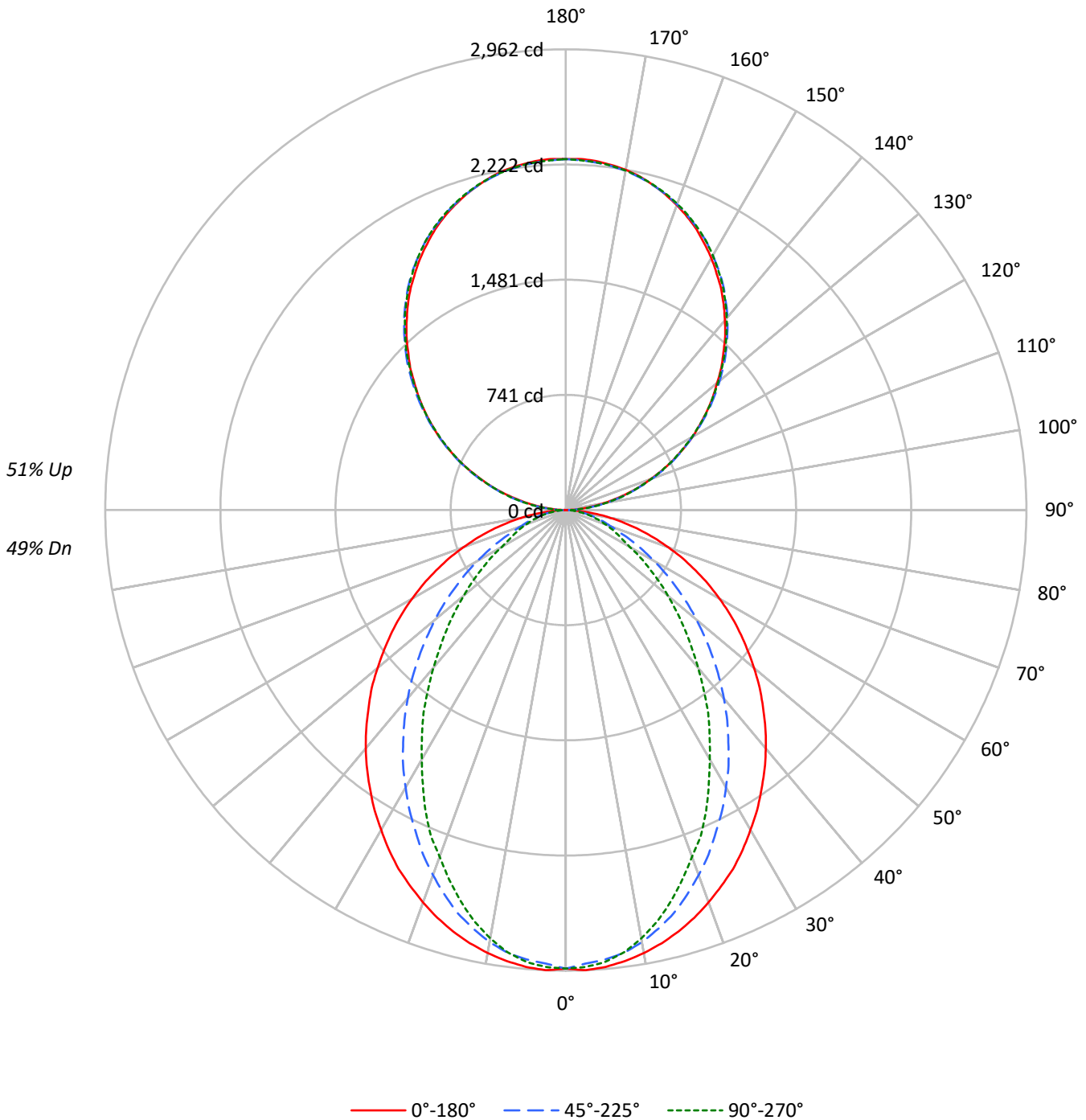
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 12376.9 lumens
Efficiency: N/A
Efficacy: 87.2 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): 142
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: P923608
CATALOG NUMBER: DFN2DIP-TR3F0-080D080US940-RLLFLL

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			0	
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0
RCR																					
0	107	107	107	107	99	99	99	99	83	83	83	68	68	68	55	55	55	49			49
1	98	94	90	87	90	87	84	81	73	71	69	61	59	58	50	49	48	42			42
2	90	83	77	72	82	76	71	67	65	61	58	54	51	49	44	42	41	36			36
3	82	73	66	60	75	68	61	57	58	53	49	48	45	42	40	37	35	31			31
4	75	65	57	51	69	60	54	48	51	46	42	43	40	36	36	33	31	27			27
5	69	58	50	44	64	54	47	42	46	41	37	39	35	32	32	29	27	24			24
6	64	52	44	39	59	49	42	37	42	36	32	35	31	28	30	26	24	21			21
7	59	47	40	34	55	44	37	32	38	33	29	32	28	25	27	24	22	19			19
8	55	43	36	30	51	40	33	29	35	29	26	30	26	23	25	22	20	17			17
9	51	39	32	27	47	37	30	26	32	27	23	27	23	20	23	20	18	16			16
10	48	36	29	24	44	34	28	23	30	24	21	25	21	19	22	18	16	14			14

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3674	3674	3674
5°	3678	3613	3636
10°	3639	3539	3516
15°	3587	3419	3330
20°	3519	3255	3104
25°	3449	3071	2886
30°	3356	2883	2609
35°	3264	2682	2366
40°	3171	2474	2089
45°	3063	2243	1837
50°	2951	2010	1591
55°	2834	1762	1355
60°	2698	1503	1113
65°	2542	1240	999
70°	2352	995	901
75°	2114	871	815
80°	1769	721	698
85°	1204	466	510

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3063 cd/sqm



TEST NUMBER: P923608

CATALOG NUMBER: DFN2DIP-TR3F0-080D080US940-RLLFLL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	276.3	2.2
10°-20°	758.6	6.1
20°-30°	1065.0	8.6
30°-40°	1160.9	9.4
40°-50°	1067.0	8.6
50°-60°	838.0	6.8
60°-70°	545.4	4.4
70°-80°	280.8	2.3
80°-90°	78.1	0.6
90°-100°	139.6	1.1
100°-110°	443.6	3.6
110°-120°	759.1	6.1
120°-130°	998.3	8.1
130°-140°	1120.6	9.1
140°-150°	1098.9	8.9
150°-160°	921.8	7.4
160°-170°	611.3	4.9
170°-180°	213.7	1.7
0°-30°	2099.9	17.0
0°-40°	3260.8	26.3
0°-60°	5165.8	41.7
0°-90°	6070.1	49.0
90°-120°	1342.3	10.8
90°-150°	4560.1	36.8
90°-180°	6307.0	51.0
0°-180°	12376.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2948	2948	2948	2948	2948	
5°	2948	2935	2900	2924	2916	280
15°	2804	2775	2684	2634	2607	790
25°	2546	2460	2284	2175	2134	1171
35°	2193	2057	1822	1654	1595	1373
45°	1793	1614	1334	1144	1081	1385
55°	1363	1155	867	707	656	1218
65°	921	704	464	374	365	913
75°	491	304	214	195	192	519
85°	115	59	51	51	51	132
90°	2	24	67	63	65	12
95°	99	118	122	122	118	111
105°	410	415	419	422	422	432
115°	762	773	769	767	762	753
125°	1108	1125	1120	1113	1111	990
135°	1433	1454	1458	1456	1451	1108
145°	1740	1754	1764	1766	1759	1087
155°	1990	1995	2001	2010	2004	916
165°	2164	2162	2162	2176	2166	611
175°	2252	2247	2242	2256	2244	214
180°	2256	2256	2256	2256	2256	



TEST NUMBER: P923608

CATALOG NUMBER: DFN2DIP-TR3F0-080D080US940-RLLFLL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2948.4	2948.4	2948.4	2948.4	2948.4
2.5°	2961.6	2948.4	2918.9	2945.8	2940.4
5°	2948.4	2935.1	2900.2	2924.3	2916.3
7.5°	2924.3	2908.4	2871.0	2881.6	2868.2
10°	2892.3	2873.6	2820.4	2812.2	2796.3
12.5°	2852.4	2828.3	2756.1	2740.2	2710.8
15°	2804.3	2774.8	2684.2	2633.6	2606.9
17.5°	2748.2	2705.4	2593.4	2534.8	2492.0
20°	2684.2	2630.7	2497.4	2430.9	2371.9
22.5°	2614.9	2553.4	2398.6	2308.0	2268.1
25°	2545.5	2460.1	2283.9	2174.7	2134.5
27.5°	2462.8	2371.9	2177.2	2051.8	1990.4
30°	2374.8	2273.1	2059.8	1923.9	1851.6
32.5°	2289.3	2166.5	1947.9	1787.7	1720.9
35°	2193.3	2057.2	1822.5	1654.4	1595.4
37.5°	2099.9	1953.0	1705.0	1520.7	1454.2
40°	2001.2	1841.2	1582.2	1392.8	1323.4
42.5°	1899.8	1729.1	1459.6	1262.0	1195.4
45°	1793.1	1614.2	1334.2	1144.5	1080.6
47.5°	1691.8	1502.4	1214.2	1024.5	965.9
50°	1579.6	1390.3	1096.7	912.4	856.6
52.5°	1470.1	1269.9	984.5	808.5	757.9
55°	1363.3	1155.3	867.1	707.1	656.5
57.5°	1254.1	1040.6	763.2	613.8	571.0
60°	1141.9	928.5	653.6	517.7	475.0
62.5°	1032.7	819.2	560.3	432.3	411.1
65°	920.6	704.3	464.2	373.7	365.4
67.5°	813.9	597.6	373.7	328.1	320.2
70°	701.8	493.7	309.4	282.8	272.1
72.5°	595.0	397.4	258.8	237.6	232.1
75°	490.9	304.1	213.5	194.7	192.3
77.5°	387.0	216.0	168.2	157.4	152.0
80°	290.7	154.9	128.0	117.4	117.4
82.5°	202.7	104.2	88.0	82.7	82.7
85°	114.7	58.6	50.6	50.6	50.6
87.5°	42.7	21.2	21.2	18.7	18.7
90°	2.1	24.5	66.7	62.6	64.6
92.5°	42.2	57.2	59.2	61.2	61.2
95°	99.3	118.3	121.7	121.7	118.3
97.5°	165.3	183.0	190.5	190.5	190.5
100°	241.5	257.1	262.5	262.5	260.5
102.5°	321.7	333.3	340.7	342.8	340.7
105°	409.5	414.9	419.0	422.4	422.4
107.5°	496.5	504.7	504.7	506.0	496.5
110°	580.9	591.7	591.7	591.7	586.3



TEST NUMBER: P923608

CATALOG NUMBER: DFN2DIP-TR3F0-080D080US940-RLLFLL

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	672.0	683.6	681.5	676.1	672.0
115°	761.8	772.7	769.3	767.2	761.8
117.5°	850.9	865.9	856.3	850.9	845.4
120°	940.7	955.6	940.7	940.7	934.5
122.5°	1022.3	1041.3	1031.8	1026.4	1022.3
125°	1108.0	1125.0	1119.5	1113.4	1111.4
127.5°	1191.7	1212.7	1205.2	1197.1	1191.7
130°	1269.9	1294.3	1290.9	1286.9	1279.4
132.5°	1357.6	1376.6	1378.0	1368.5	1363.1
135°	1433.1	1454.2	1458.3	1456.3	1450.8
137.5°	1517.4	1534.5	1537.8	1536.5	1528.3
140°	1591.6	1608.6	1618.1	1618.1	1610.6
142.5°	1667.8	1684.8	1690.2	1692.3	1684.8
145°	1739.9	1753.5	1764.3	1766.4	1758.9
147.5°	1804.5	1821.5	1829.6	1833.1	1825.6
150°	1871.2	1882.7	1890.2	1896.3	1890.2
152.5°	1930.3	1941.9	1951.4	1958.9	1951.4
155°	1989.5	1994.9	2001.1	2010.5	2004.5
157.5°	2040.5	2044.6	2048.0	2061.5	2052.1
160°	2086.1	2090.2	2092.2	2103.7	2095.6
162.5°	2128.2	2128.2	2130.3	2143.2	2133.7
165°	2164.3	2162.2	2162.2	2175.9	2166.3
167.5°	2196.9	2190.8	2190.8	2204.4	2194.9
170°	2221.4	2216.0	2213.9	2227.6	2216.0
172.5°	2238.5	2233.0	2231.0	2244.5	2233.0
175°	2252.0	2246.6	2242.5	2256.1	2244.5
177.5°	2259.5	2254.1	2250.0	2261.6	2250.0
180°	2256.1	2256.1	2256.1	2256.1	2256.1



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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	11.52	12.35	12.50	13.33	14.62	7.50	8.32	8.47	9.31	10.59
	3H	13.19	13.93	14.18	14.92	16.23	8.68	9.42	9.67	10.41	11.72
	4H	13.79	14.49	14.79	15.48	16.80	9.13	9.83	10.13	10.82	12.14
	6H	14.21	14.85	15.21	15.85	17.18	9.45	10.09	10.45	11.09	12.42
	8H	14.33	14.94	15.34	15.95	17.28	9.53	10.14	10.55	11.16	12.48
	12H	14.39	14.97	15.40	15.97	17.33	9.57	10.15	10.59	11.16	12.51
4H	2H	11.54	12.24	12.54	13.23	14.55	8.09	8.79	9.09	9.78	11.10
	3H	13.36	13.94	14.37	14.96	16.29	9.43	10.01	10.44	11.03	12.37
	4H	14.04	14.57	15.06	15.59	16.94	9.98	10.50	11.00	11.52	12.88
	6H	14.55	15.00	15.58	16.04	17.39	10.39	10.84	11.42	11.88	13.23
	8H	14.72	15.14	15.75	16.17	17.54	10.51	10.94	11.54	11.97	13.34
	12H	14.81	15.19	15.86	16.24	17.61	10.58	10.96	11.62	12.00	13.38
8H	4H	14.01	14.43	15.04	15.46	16.83	10.25	10.67	11.28	11.71	13.07
	6H	14.56	14.91	15.62	15.99	17.35	10.76	11.11	11.81	12.18	13.55
	8H	14.77	15.08	15.84	16.14	17.52	10.95	11.25	12.01	12.31	13.70
	12H	14.91	15.18	15.97	16.23	17.66	11.06	11.33	12.13	12.38	13.81
12H	4H	13.96	14.34	15.01	15.39	16.76	10.25	10.64	11.30	11.68	13.05
	6H	14.54	14.85	15.60	15.91	17.29	10.81	11.11	11.87	12.17	13.56
	8H	14.75	15.02	15.82	16.08	17.50	11.01	11.28	12.08	12.34	13.76