

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: P912654

Luminaire Tested: DFN2DIP-TR3F0-070D040US850-RLLFLL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P912654
REPORT IS A COMBINATION OF REPORTS P900294 AND P897195
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-TR3F0-070D040US850-RLLFLL
Description: 3 foot, Triangle Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

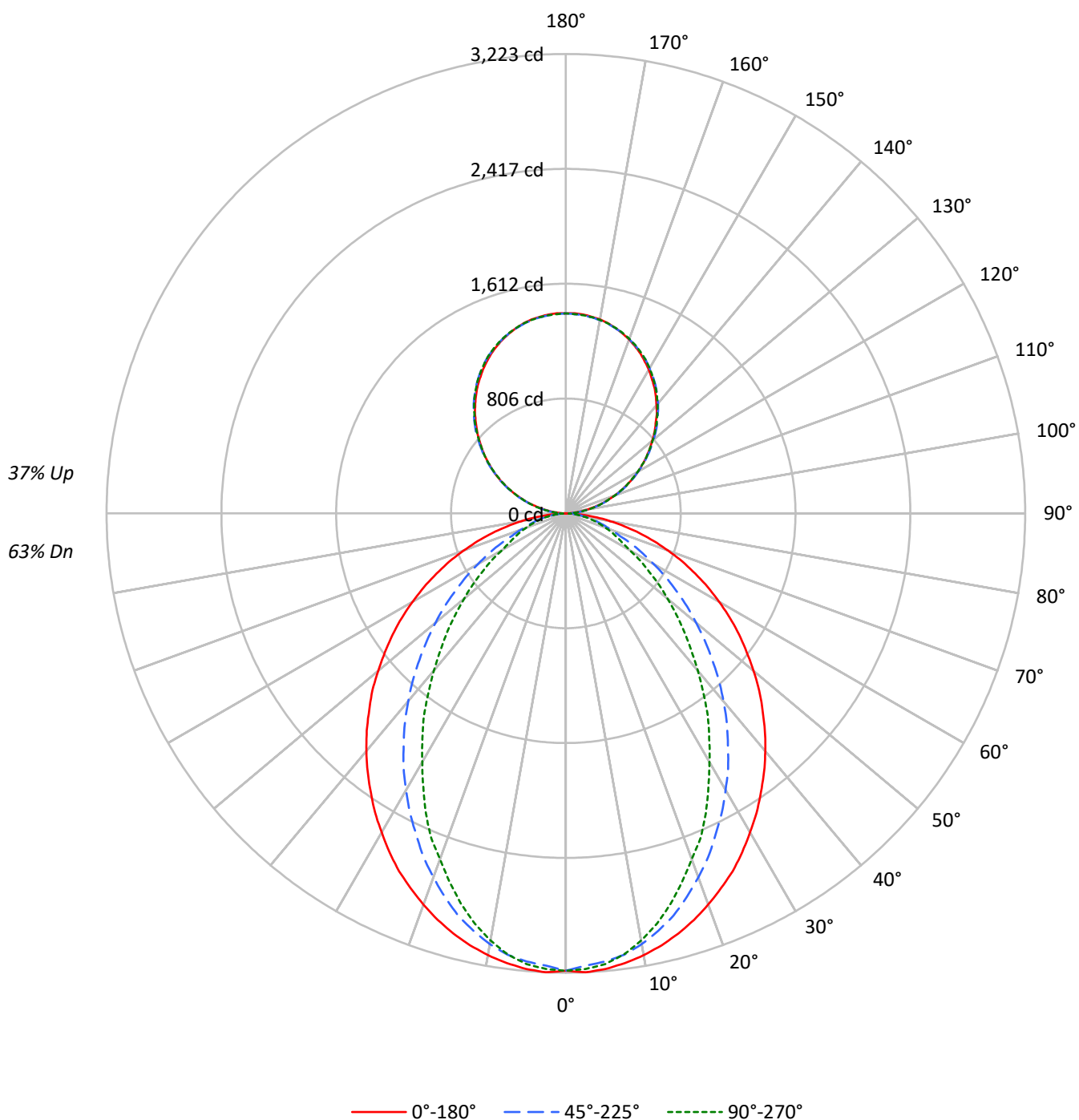
Lumens per Lamp: N/A
Luminaire Lumens: 10524.3 lumens
Efficiency: N/A
Efficacy: 105.6 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular w/ Sides (W: 2.74' x L: 3.16' x H: 0.1')
CIE Type: Semi-Direct

Input Watts (W): 99.7
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9971
Total Harmonic Distortion (THDi): 0.049
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

TEST NUMBER: P912654

CATALOG NUMBER: DFN2DIP-TR3F0-070D040US850-RLLFLL

Luminous Intensity Polar Plot



TEST NUMBER: P912654

CATALOG NUMBER: DFN2DIP-TR3F0-070D040US850-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	110	110	110	110	103	103	103	103	90	90	90	79	79	79	68	68	68
1	101	97	93	90	95	91	88	85	80	78	76	70	68	67	61	60	58
2	93	85	80	75	87	80	75	71	71	67	64	62	59	57	54	52	50
3	85	76	69	63	79	71	65	60	63	58	54	56	52	49	49	46	43
4	78	67	60	54	73	64	57	51	57	51	47	50	46	42	44	41	38
5	72	61	53	47	67	57	50	45	51	45	41	45	41	37	40	36	33
6	67	55	47	41	62	52	44	39	46	40	36	41	36	33	36	33	30
7	62	50	42	36	58	47	40	35	42	36	32	38	33	29	33	30	27
8	57	45	38	32	54	43	36	31	39	33	29	35	30	26	31	27	24
9	54	42	34	29	50	40	33	28	36	30	26	32	27	24	29	25	22
10	50	38	31	26	47	36	30	25	33	27	24	30	25	22	27	23	20

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3998	3998	3998
5°	4002	3931	3957
10°	3961	3851	3826
15°	3904	3720	3624
20°	3829	3542	3378
25°	3753	3342	3140
30°	3652	3138	2840
35°	3552	2918	2575
40°	3451	2692	2273
45°	3333	2441	1999
50°	3211	2188	1732
55°	3084	1918	1475
60°	2936	1636	1212
65°	2766	1350	1087
70°	2560	1083	980
75°	2300	947	886
80°	1925	785	760
85°	1310	508	556

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 3333 cd/sqm

TEST NUMBER: P912654

CATALOG NUMBER: DFN2DIP-TR3F0-070D040US850-RLLFLL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	300.7	2.9
10°-20°	825.5	7.8
20°-30°	1158.9	11.0
30°-40°	1263.3	12.0
40°-50°	1161.1	11.0
50°-60°	911.9	8.7
60°-70°	593.5	5.6
70°-80°	305.5	2.9
80°-90°	82.0	0.8
90°-100°	86.8	0.8
100°-110°	275.8	2.6
110°-120°	472.0	4.5
120°-130°	620.8	5.9
130°-140°	696.8	6.6
140°-150°	683.3	6.5
150°-160°	573.2	5.4
160°-170°	380.1	3.6
170°-180°	132.9	1.3
0°-30°	2285.1	21.7
0°-40°	3548.4	33.7
0°-60°	5621.4	53.4
0°-90°	6602.5	62.7
90°-120°	834.7	7.9
90°-150°	2835.6	26.9
90°-180°	3922.0	37.3
0°-180°	10524.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3208	3208	3208	3208	3208	
5°	3208	3194	3156	3182	3174	304
15°	3052	3020	2921	2866	2837	860
25°	2770	2677	2485	2366	2323	1274
35°	2387	2239	1983	1800	1736	1494
45°	1951	1756	1452	1246	1176	1507
55°	1484	1257	944	770	714	1326
65°	1002	766	505	407	398	993
75°	534	331	232	212	209	565
85°	125	64	55	55	55	143
90°	1	15	42	39	40	10
95°	62	74	76	76	74	69
105°	255	258	260	263	263	269
115°	474	480	478	477	474	469
125°	689	700	696	692	691	616
135°	891	904	907	906	902	689
145°	1082	1090	1097	1098	1094	676
155°	1237	1240	1244	1250	1246	569
165°	1346	1345	1345	1353	1347	380
175°	1400	1397	1394	1403	1396	133
180°	1403	1403	1403	1403	1403	

TEST NUMBER: P912654

CATALOG NUMBER: DFN2DIP-TR3F0-070D040US850-RLLFLL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3208.4	3208.4	3208.4	3208.4	3208.4
2.5°	3222.9	3208.4	3176.4	3205.7	3199.8
5°	3208.4	3193.9	3156.1	3182.3	3173.6
7.5°	3182.3	3165.0	3124.4	3135.7	3121.3
10°	3147.5	3127.2	3069.2	3060.3	3043.0
12.5°	3104.0	3077.8	2999.3	2982.0	2949.9
15°	3051.6	3019.6	2921.0	2865.9	2836.9
17.5°	2990.6	2944.2	2822.2	2758.3	2711.8
20°	2921.0	2862.8	2717.7	2645.3	2581.2
22.5°	2845.6	2778.7	2610.1	2511.6	2468.2
25°	2770.1	2677.0	2485.4	2366.5	2322.8
27.5°	2680.1	2581.2	2369.3	2232.9	2166.0
30°	2584.3	2473.7	2241.4	2093.6	2015.1
32.5°	2491.3	2357.6	2119.7	1945.4	1872.7
35°	2386.8	2238.6	1983.3	1800.4	1736.3
37.5°	2285.2	2125.3	1855.5	1654.8	1582.5
40°	2177.6	2003.6	1721.7	1515.7	1440.1
42.5°	2067.4	1881.6	1588.3	1373.3	1301.0
45°	1951.3	1756.5	1451.9	1245.5	1175.9
47.5°	1840.9	1634.9	1321.3	1114.9	1051.1
50°	1719.0	1512.9	1193.4	992.9	932.2
52.5°	1599.7	1381.9	1071.4	879.8	824.7
55°	1483.6	1257.2	943.5	769.5	714.4
57.5°	1364.7	1132.4	830.5	667.8	621.4
60°	1242.7	1010.4	711.3	563.5	516.9
62.5°	1123.7	891.5	609.6	470.4	447.3
65°	1001.8	766.4	505.3	406.7	397.7
67.5°	885.6	650.3	406.7	357.0	348.4
70°	763.7	537.2	336.7	307.7	296.0
72.5°	647.5	432.5	281.6	258.5	252.6
75°	534.2	330.8	232.2	211.9	209.2
77.5°	421.1	235.0	183.0	171.2	165.5
80°	316.4	168.5	139.3	127.9	127.9
82.5°	220.6	113.3	95.8	89.9	89.9
85°	124.8	63.8	55.1	55.1	55.1
87.5°	46.5	23.1	23.1	20.3	20.3
90°	1.2	15.2	41.5	38.9	40.1
92.5°	26.2	35.5	36.8	38.0	38.0
95°	61.8	73.6	75.7	75.7	73.6
97.5°	102.8	113.8	118.4	118.4	118.4
100°	150.2	159.9	163.2	163.2	162.0
102.5°	200.1	207.3	211.9	213.1	211.9
105°	254.6	258.0	260.5	262.6	262.6
107.5°	308.7	313.8	313.8	314.6	308.7
110°	361.2	368.0	368.0	368.0	364.6

TEST NUMBER: P912654

CATALOG NUMBER: DFN2DIP-TR3F0-070D040US850-RLLFLL

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	417.9	425.1	423.7	420.4	417.9
115°	473.7	480.5	478.3	477.1	473.7
117.5°	529.1	538.4	532.5	529.1	525.8
120°	585.0	594.2	585.0	585.0	581.1
122.5°	635.7	647.5	641.7	638.2	635.7
125°	689.0	699.6	696.2	692.3	691.1
127.5°	741.0	754.1	749.5	744.4	741.0
130°	789.6	804.9	802.8	800.3	795.6
132.5°	844.2	856.0	856.9	850.9	847.6
135°	891.2	904.3	906.8	905.5	902.2
137.5°	943.6	954.2	956.3	955.4	950.4
140°	989.7	1000.3	1006.2	1006.2	1001.5
142.5°	1037.1	1047.7	1051.0	1052.3	1047.7
145°	1081.9	1090.4	1097.1	1098.5	1093.8
147.5°	1122.1	1132.6	1137.7	1139.8	1135.2
150°	1163.6	1170.8	1175.4	1179.2	1175.4
152.5°	1200.4	1207.5	1213.5	1218.1	1213.5
155°	1237.1	1240.5	1244.3	1250.3	1246.4
157.5°	1268.9	1271.4	1273.5	1282.0	1276.0
160°	1297.2	1299.7	1301.0	1308.2	1303.1
162.5°	1323.4	1323.4	1324.7	1332.7	1326.8
165°	1345.9	1344.6	1344.6	1353.0	1347.1
167.5°	1366.2	1362.3	1362.3	1370.8	1364.8
170°	1381.4	1377.9	1376.7	1385.1	1377.9
172.5°	1391.9	1388.6	1387.2	1395.8	1388.6
175°	1400.4	1397.0	1394.5	1402.9	1395.8
177.5°	1405.1	1401.7	1399.1	1406.3	1399.1
180°	1402.9	1402.9	1402.9	1402.9	1402.9

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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	13.02	13.97	13.87	14.83	15.91	9.00	9.94	9.84	10.81	11.89
	3H	14.70	15.55	15.56	16.42	17.53	10.19	11.04	11.05	11.91	13.02
	4H	15.31	16.10	16.18	16.98	18.10	10.64	11.44	11.52	12.32	13.44
	6H	15.73	16.46	16.61	17.35	18.48	10.96	11.70	11.85	12.59	13.72
	8H	15.85	16.55	16.75	17.46	18.59	11.06	11.75	11.95	12.66	13.79
	12H	15.91	16.58	16.81	17.48	18.63	11.10	11.77	12.00	12.66	13.82
4H	2H	13.05	13.85	13.93	14.73	15.85	9.60	10.40	10.48	11.28	12.40
	3H	14.88	15.55	15.77	16.46	17.59	10.96	11.62	11.85	12.53	13.66
	4H	15.57	16.17	16.47	17.08	18.24	11.50	12.11	12.41	13.02	14.17
	6H	16.08	16.60	17.00	17.54	18.70	11.92	12.44	12.84	13.38	14.54
	8H	16.26	16.74	17.18	17.67	18.84	12.05	12.54	12.97	13.46	14.64
	12H	16.35	16.79	17.29	17.73	18.91	12.12	12.56	13.06	13.50	14.68
8H	4H	15.55	16.03	16.47	16.96	18.13	11.79	12.27	12.71	13.20	14.37
	6H	16.11	16.51	17.05	17.48	18.65	12.30	12.70	13.25	13.67	14.84
	8H	16.32	16.67	17.27	17.63	18.82	12.49	12.84	13.44	13.80	14.99
	12H	16.45	16.77	17.41	17.72	18.96	12.61	12.92	13.57	13.87	15.11
12H	4H	15.50	15.94	16.44	16.88	18.06	11.80	12.23	12.73	13.18	14.36
	6H	16.08	16.44	17.04	17.40	18.59	12.35	12.70	13.31	13.66	14.85
	8H	16.30	16.61	17.26	17.56	18.80	12.56	12.87	13.52	13.82	15.06

END OF REPORT