

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: P909838

Luminaire Tested: DFN2DIP-TR3F0-030D080US840-RLLFLL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P909838
REPORT IS A COMBINATION OF REPORTS P900342 AND P897195
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-TR3F0-030D080US840-RLLFLL
Description: 3 foot, Triangle Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

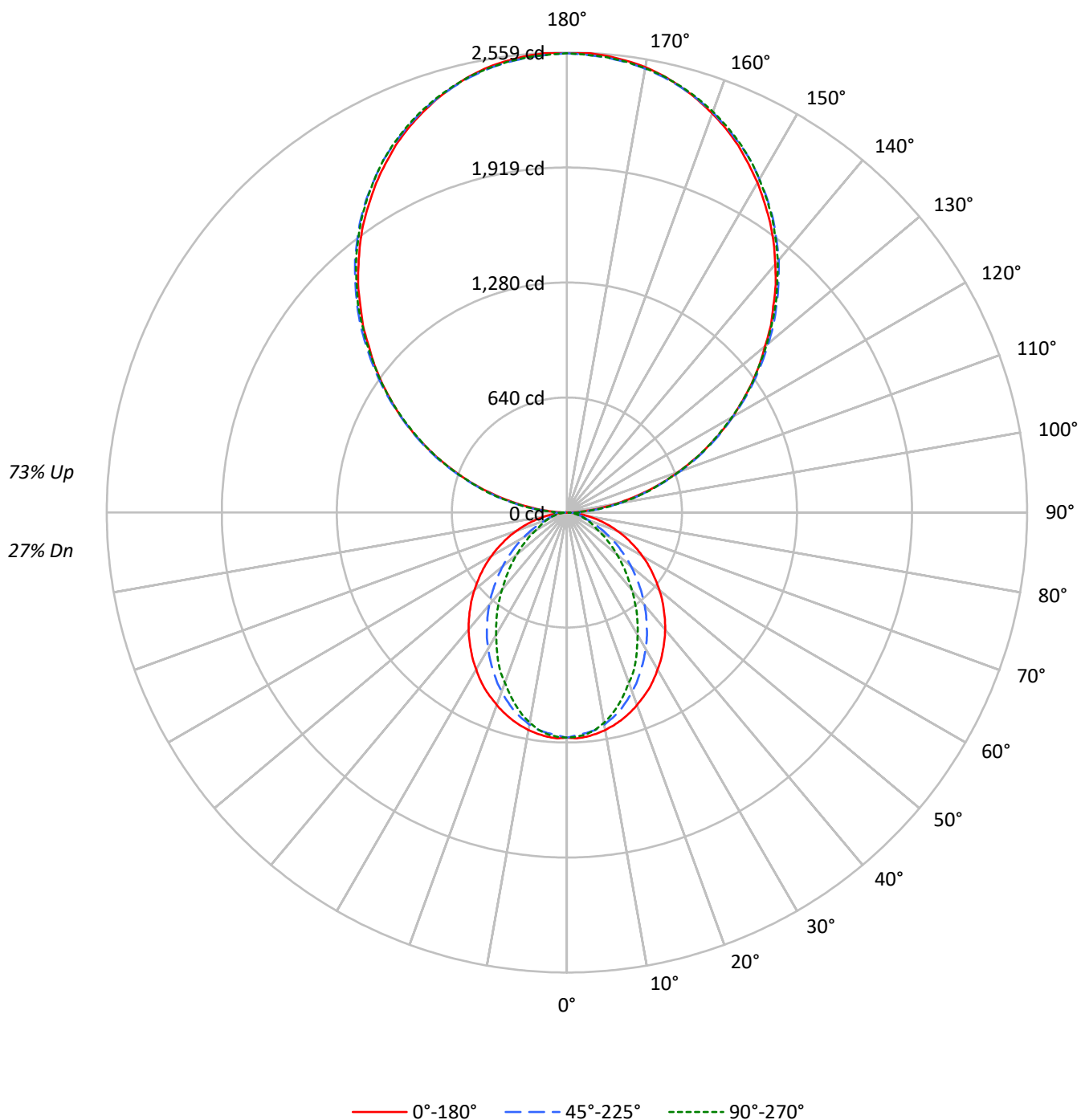
Lumens per Lamp: N/A
Luminaire Lumens: 9724.9 lumens
Efficiency: N/A
Efficacy: 114.3 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular w/ Sides (W: 2.74' x L: 3.16' x H: 0.1')
CIE Type: Semi-Indirect

Input Watts (W): 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: P909838

CATALOG NUMBER: DFN2DIP-TR3F0-030D080US840-RLLFLL

Luminous Intensity Polar Plot



TEST NUMBER: P909838

CATALOG NUMBER: DFN2DIP-TR3F0-030D080US840-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	102	102	102	102	91	91	91	91	70	70	70	52	52	52	35	35	35
1	93	89	85	82	83	79	76	74	62	60	58	46	44	43	31	30	30
2	85	78	72	67	75	70	65	61	54	51	48	40	38	37	27	26	25
3	77	68	62	56	69	61	56	51	48	44	41	36	33	31	25	23	22
4	71	61	53	48	63	54	48	43	43	38	35	32	29	27	22	20	19
5	65	54	46	41	58	49	42	37	38	34	30	29	26	23	20	18	17
6	60	48	41	35	53	44	37	32	35	30	26	26	23	20	18	16	15
7	55	44	36	31	49	39	33	28	31	27	23	24	21	18	17	15	13
8	51	39	32	27	46	36	29	25	28	24	20	22	18	16	15	13	12
9	48	36	29	24	42	33	26	22	26	21	18	20	17	14	14	12	11
10	44	33	26	21	40	30	24	20	24	19	16	18	15	13	13	11	10

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1560	1560	1560
5°	1562	1534	1544
10°	1546	1503	1493
15°	1523	1452	1414
20°	1494	1382	1318
25°	1465	1304	1225
30°	1425	1224	1108
35°	1386	1139	1005
40°	1347	1051	887
45°	1301	953	780
50°	1253	854	676
55°	1203	748	576
60°	1146	638	473
65°	1079	527	424
70°	999	423	382
75°	897	370	346
80°	751	306	297
85°	511	198	217

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 90°

Luminance: 2495 cd/sqm

TEST NUMBER: P909838

CATALOG NUMBER: DFN2DIP-TR3F0-030D080US840-RLLFLL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	117.4	1.2
10°-20°	322.1	3.3
20°-30°	452.3	4.7
30°-40°	493.0	5.1
40°-50°	453.1	4.7
50°-60°	355.9	3.7
60°-70°	231.6	2.4
70°-80°	119.2	1.2
80°-90°	37.7	0.4
90°-100°	158.1	1.6
100°-110°	502.4	5.2
110°-120°	859.7	8.8
120°-130°	1130.6	11.6
130°-140°	1269.1	13.0
140°-150°	1244.5	12.8
150°-160°	1043.9	10.7
160°-170°	692.3	7.1
170°-180°	242.0	2.5
0°-30°	891.8	9.2
0°-40°	1384.8	14.2
0°-60°	2193.8	22.6
0°-90°	2582.4	26.6
90°-120°	1520.1	15.6
90°-150°	5164.3	53.1
90°-180°	7143.0	73.5
0°-180°	9724.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1252	1252	1252	1252	1252	
5°	1252	1246	1232	1242	1238	119
15°	1191	1178	1140	1118	1107	336
25°	1081	1045	970	924	906	497
35°	932	874	774	703	678	583
45°	762	686	567	486	459	588
55°	579	491	368	300	279	517
65°	391	299	197	159	155	388
75°	208	129	91	83	82	220
85°	49	25	22	22	22	56
90°	2	28	76	71	73	10
95°	112	134	138	138	134	125
105°	464	470	474	478	478	489
115°	863	875	871	869	863	853
125°	1255	1274	1268	1261	1259	1121
135°	1623	1647	1652	1649	1643	1254
145°	1970	1986	1998	2000	1992	1231
155°	2253	2259	2266	2277	2270	1037
165°	2451	2449	2449	2464	2453	691
175°	2550	2544	2540	2555	2542	242
180°	2555	2555	2555	2555	2555	

TEST NUMBER: P909838

CATALOG NUMBER: DFN2DIP-TR3F0-030D080US840-RLLFLL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1252.1	1252.1	1252.1	1252.1	1252.1
2.5°	1257.8	1252.1	1239.6	1251.0	1248.8
5°	1252.1	1246.5	1231.7	1241.9	1238.5
7.5°	1241.9	1235.2	1219.3	1223.8	1218.1
10°	1228.3	1220.4	1197.8	1194.3	1187.6
12.5°	1211.3	1201.1	1170.5	1163.8	1151.2
15°	1190.9	1178.4	1139.9	1118.4	1107.1
17.5°	1167.1	1149.0	1101.4	1076.5	1058.3
20°	1139.9	1117.2	1060.6	1032.4	1007.3
22.5°	1110.5	1084.4	1018.7	980.2	963.2
25°	1081.1	1044.7	970.0	923.5	906.5
27.5°	1045.9	1007.3	924.6	871.4	845.3
30°	1008.6	965.4	874.7	817.1	786.4
32.5°	972.2	920.1	827.3	759.2	730.8
35°	931.5	873.6	774.0	702.6	677.6
37.5°	891.8	829.4	724.1	645.8	617.6
40°	849.9	781.9	672.0	591.5	562.1
42.5°	806.8	734.4	619.9	535.9	507.7
45°	761.5	685.5	566.6	486.0	458.9
47.5°	718.4	638.0	515.6	435.1	410.2
50°	670.9	590.4	465.7	387.5	363.8
52.5°	624.3	539.4	418.2	343.4	321.8
55°	579.0	490.6	368.2	300.3	278.8
57.5°	532.6	441.9	324.2	260.6	242.5
60°	484.9	394.4	277.6	219.8	201.8
62.5°	438.6	347.9	237.9	183.6	174.6
65°	390.9	299.1	197.1	158.6	155.2
67.5°	345.7	253.8	158.6	139.4	135.9
70°	298.0	209.6	131.4	120.1	115.5
72.5°	252.7	168.7	109.9	100.9	98.6
75°	208.4	129.2	90.7	82.7	81.6
77.5°	164.3	91.7	71.4	66.9	64.5
80°	123.5	65.7	54.3	49.9	49.9
82.5°	86.0	44.2	37.4	35.1	35.1
85°	48.7	24.8	21.5	21.5	21.5
87.5°	18.2	9.0	9.0	8.0	8.0
90°	2.3	27.8	75.5	70.9	73.2
92.5°	47.8	64.7	67.1	69.3	69.3
95°	112.5	134.0	137.8	137.8	134.0
97.5°	187.2	207.2	215.7	215.7	215.7
100°	273.5	291.1	297.3	297.3	295.0
102.5°	364.4	377.5	385.9	388.2	385.9
105°	463.7	469.9	474.5	478.4	478.4
107.5°	562.3	571.6	571.6	573.1	562.3
110°	657.8	670.1	670.1	670.1	664.0

TEST NUMBER: P909838

CATALOG NUMBER: DFN2DIP-TR3F0-030D080US840-RLLFLL

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	761.0	774.2	771.8	765.7	761.0
115°	862.7	875.0	871.2	868.9	862.7
117.5°	963.6	980.6	969.8	963.6	957.5
120°	1065.3	1082.3	1065.3	1065.3	1058.3
122.5°	1157.7	1179.3	1168.5	1162.4	1157.7
125°	1254.8	1274.0	1267.9	1260.9	1258.7
127.5°	1349.6	1373.4	1364.9	1355.7	1349.6
130°	1438.1	1465.8	1462.0	1457.4	1449.0
132.5°	1537.5	1559.0	1560.6	1549.8	1543.7
135°	1623.0	1646.9	1651.5	1649.2	1643.1
137.5°	1718.5	1737.8	1741.6	1740.1	1730.8
140°	1802.5	1821.7	1832.5	1832.5	1824.0
142.5°	1888.8	1908.0	1914.2	1916.5	1908.0
145°	1970.4	1985.8	1998.1	2000.4	1992.0
147.5°	2043.6	2062.9	2072.0	2076.0	2067.5
150°	2119.1	2132.1	2140.6	2147.6	2140.6
152.5°	2186.1	2199.2	2210.0	2218.5	2210.0
155°	2253.1	2259.3	2266.2	2276.9	2270.1
157.5°	2310.9	2315.5	2319.4	2334.7	2324.0
160°	2362.5	2367.1	2369.4	2382.5	2373.3
162.5°	2410.2	2410.2	2412.6	2427.2	2416.4
165°	2451.0	2448.7	2448.7	2464.2	2453.4
167.5°	2488.0	2481.1	2481.1	2496.5	2485.7
170°	2515.8	2509.6	2507.3	2522.7	2509.6
172.5°	2535.1	2528.9	2526.6	2541.9	2528.9
175°	2550.4	2544.3	2539.6	2555.1	2541.9
177.5°	2558.9	2552.7	2548.1	2561.2	2548.1
180°	2555.1	2555.1	2555.1	2555.1	2555.1

TEST NUMBER: P909838

CATALOG NUMBER: DFN2DIP-TR3F0-030D080US840-RLFL

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	5.91	6.58	7.05	7.70	9.28	1.88	2.55	3.02	3.68	5.25
	3H	7.56	8.16	8.71	9.30	10.89	3.05	3.65	4.20	4.79	6.38
	4H	8.16	8.73	9.31	9.86	11.45	3.49	4.06	4.65	5.20	6.79
	6H	8.56	9.09	9.73	10.22	11.83	3.80	4.32	4.97	5.46	7.07
	8H	8.68	9.18	9.85	10.33	11.93	3.88	4.38	5.05	5.53	7.13
	12H	8.73	9.20	9.90	10.35	11.97	3.92	4.39	5.09	5.54	7.16
4H	2H	5.90	6.47	7.07	7.61	9.20	2.45	3.02	3.62	4.16	5.75
	3H	7.71	8.18	8.88	9.34	10.95	3.78	4.26	4.95	5.42	7.02
	4H	8.39	8.82	9.56	9.97	11.60	4.32	4.75	5.49	5.90	7.53
	6H	8.88	9.26	10.06	10.43	12.04	4.72	5.10	5.90	6.27	7.88
	8H	9.05	9.40	10.22	10.56	12.19	4.85	5.19	6.02	6.36	7.99
	12H	9.13	9.45	10.32	10.62	12.26	4.90	5.22	6.09	6.39	8.03
8H	4H	8.34	8.69	9.52	9.85	11.48	4.58	4.93	5.76	6.09	7.72
	6H	8.89	9.18	10.08	10.38	12.01	5.09	5.37	6.28	6.58	8.21
	8H	9.10	9.35	10.30	10.53	12.18	5.27	5.52	6.47	6.71	8.35
	12H	9.22	9.44	10.43	10.63	12.30	5.38	5.60	6.58	6.78	8.46
12H	4H	8.29	8.60	9.48	9.78	11.41	4.58	4.89	5.77	6.07	7.70
	6H	8.87	9.11	10.06	10.30	11.95	5.13	5.38	6.33	6.57	8.21
	8H	9.07	9.29	10.27	10.47	12.15	5.33	5.55	6.53	6.73	8.41

END OF REPORT