

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: P904377

Luminaire Tested: DFN2DIP-TR3F0-030D070US830-FLLONL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P904377
REPORT IS A COMBINATION OF REPORTS P901847 AND P898751
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-TR3F0-030D070US830-FLLONL
Description: 3 foot, Triangle Define Geo, with Direct Frosted Lens, Indirect Open No Lens
Light Source: -
Ballast/Driver: -

Summary

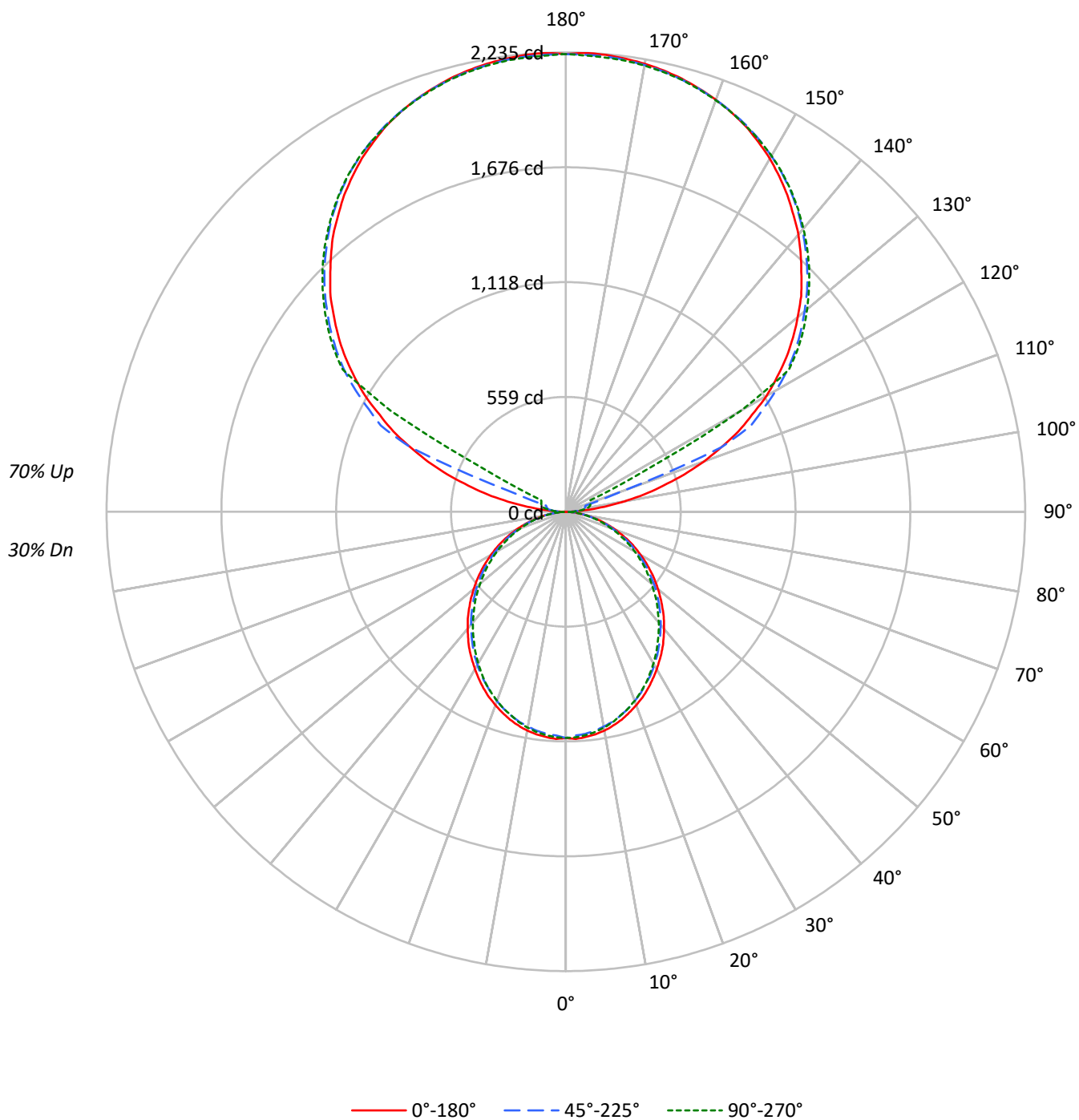
Lumens per Lamp: N/A
Luminaire Lumens: 9331.2 lumens
Efficiency: N/A
Efficacy: 120.9 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular w/ Sides (W: 2.74' x L: 3.16' x H: 0.1')
CIE Type: Semi-Indirect

Input Watts (W): 77.2
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: P904377

CATALOG NUMBER: DFN2DIP-TR3F0-030D070US830-FLLONL

Luminous Intensity Polar Plot



TEST NUMBER: P904377

CATALOG NUMBER: DFN2DIP-TR3F0-030D070US830-FLONL

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	92	92	92	92	72	72	72	54	54	54	38	38	38
1	93	89	85	82	84	80	77	74	63	61	59	48	46	45	33	33	32
2	85	78	72	67	76	70	65	61	55	52	49	42	40	38	29	28	27
3	77	68	61	56	69	62	56	51	49	45	41	37	34	32	26	24	23
4	71	60	53	47	63	54	48	43	43	39	35	33	30	27	23	21	20
5	65	54	46	40	58	48	42	37	39	34	30	29	26	23	21	19	17
6	60	48	40	35	53	43	37	32	35	30	26	27	23	20	19	17	15
7	55	43	35	30	49	39	32	28	31	26	23	24	21	18	17	15	13
8	51	39	32	26	46	35	29	24	28	24	20	22	19	16	16	14	12
9	47	36	28	23	42	32	26	22	26	21	18	20	17	14	15	12	11
10	44	32	26	21	40	30	23	19	24	19	16	19	15	13	14	11	10

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1371	1371	1371
5°	1372	1351	1360
10°	1361	1331	1341
15°	1340	1308	1311
20°	1312	1277	1281
25°	1284	1239	1246
30°	1250	1204	1202
35°	1217	1163	1155
40°	1177	1121	1110
45°	1137	1080	1065
50°	1093	1036	1012
55°	1047	985	964
60°	995	925	908
65°	938	862	842
70°	865	786	771
75°	765	695	704
80°	644	578	579
85°	456	381	373

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 90°

Luminance: 1483 cd/sqm

TEST NUMBER: P904377

CATALOG NUMBER: DFN2DIP-TR3F0-030D070US830-FLONL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	103.6	1.1
10°-20°	291.4	3.1
20°-30°	428.2	4.6
30°-40°	497.3	5.3
40°-50°	496.7	5.3
50°-60°	433.1	4.6
60°-70°	320.2	3.4
70°-80°	181.1	1.9
80°-90°	51.7	0.6
90°-100°	73.4	0.8
100°-110°	273.7	2.9
110°-120°	725.9	7.8
120°-130°	1204.0	12.9
130°-140°	1278.9	13.7
140°-150°	1188.6	12.7
150°-160°	955.6	10.2
160°-170°	615.8	6.6
170°-180°	211.9	2.3
0°-30°	823.1	8.8
0°-40°	1320.4	14.2
0°-60°	2250.3	24.1
0°-90°	2803.3	30.0
90°-120°	1073.0	11.5
90°-150°	4744.6	50.8
90°-180°	6528.0	70.0
0°-180°	9331.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1100	1100	1100	1100	1100	
5°	1100	1096	1084	1093	1091	104
15°	1047	1041	1027	1032	1026	295
25°	948	940	922	924	922	436
35°	818	807	790	784	779	511
45°	666	658	642	631	626	514
55°	504	497	485	472	467	450
65°	340	333	323	313	308	336
75°	178	176	170	164	166	190
85°	43	42	41	38	37	48
90°	2	19	32	40	44	9
95°	105	52	63	71	69	124
105°	490	538	98	116	122	523
115°	926	954	994	248	132	912
125°	1310	1331	1362	1373	1378	1168
135°	1621	1647	1661	1677	1674	1252
145°	1880	1879	1906	1917	1909	1176
155°	2070	2056	2075	2085	2072	954
165°	2182	2172	2177	2188	2177	616
175°	2232	2220	2224	2235	2219	212
180°	2227	2227	2227	2227	2227	

TEST NUMBER: P904377

CATALOG NUMBER: DFN2DIP-TR3F0-030D070US830-FLLONL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1100.2	1100.2	1100.2	1100.2	1100.2
2.5°	1106.6	1101.4	1089.7	1100.2	1098.3
5°	1100.2	1096.1	1084.4	1092.9	1090.8
7.5°	1092.9	1086.6	1074.9	1083.5	1081.3
10°	1081.3	1073.8	1061.2	1069.6	1066.5
12.5°	1065.4	1059.0	1046.4	1051.6	1049.5
15°	1047.4	1041.1	1027.3	1031.5	1026.2
17.5°	1025.1	1018.9	1005.0	1010.3	1005.0
20°	1000.8	994.5	979.7	982.8	978.6
22.5°	976.6	967.0	953.2	953.2	951.0
25°	947.9	939.5	921.5	923.6	921.5
27.5°	916.2	908.7	895.0	891.9	886.6
30°	884.5	876.0	860.2	857.0	852.7
32.5°	850.6	844.3	827.4	821.0	816.7
35°	817.8	807.3	790.3	783.9	778.6
37.5°	780.8	771.3	754.3	746.9	741.6
40°	742.7	734.2	717.3	707.8	703.6
42.5°	705.7	697.2	680.3	669.7	663.4
45°	665.5	658.1	642.2	630.6	626.3
47.5°	626.3	619.0	602.0	590.3	584.0
50°	585.0	579.8	565.0	550.2	544.9
52.5°	544.9	537.4	523.8	512.1	504.6
55°	503.7	497.3	484.6	471.9	466.7
57.5°	462.3	457.0	443.3	430.6	426.3
60°	421.0	416.9	402.1	390.4	387.3
62.5°	380.9	373.4	362.9	352.3	348.1
65°	339.7	333.3	322.7	313.2	307.9
67.5°	297.4	292.0	282.5	275.1	270.9
70°	258.2	253.9	244.4	237.0	232.8
72.5°	218.0	213.7	208.4	201.0	197.9
75°	177.7	175.7	170.3	164.0	166.2
77.5°	141.8	137.5	135.3	132.2	129.1
80°	105.8	104.7	102.5	99.4	97.4
82.5°	71.9	71.9	71.0	66.6	66.6
85°	43.4	42.3	41.3	38.1	37.0
87.5°	19.0	17.0	14.8	11.7	10.6
90°	1.5	19.3	32.1	40.3	43.5
92.5°	40.3	33.8	38.6	41.9	43.5
95°	104.6	51.5	62.8	71.0	69.3
97.5°	188.4	56.5	82.1	87.1	88.6
100°	285.3	64.5	91.8	104.6	107.9
102.5°	391.4	388.4	95.1	112.7	117.6
105°	489.8	538.2	98.3	115.9	122.4
107.5°	604.2	644.4	101.6	119.2	125.7
110°	713.9	747.5	282.0	120.9	127.2

TEST NUMBER: P904377

CATALOG NUMBER: DFN2DIP-TR3F0-030D070US830-FLLONL

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	817.0	845.8	818.5	123.9	128.9
115°	926.4	953.8	994.1	248.2	132.2
117.5°	1021.5	1053.7	1081.2	850.6	428.6
120°	1127.8	1152.0	1181.1	1200.4	982.9
122.5°	1218.0	1243.8	1276.2	1285.7	1287.4
125°	1309.9	1330.9	1361.5	1372.8	1377.5
127.5°	1393.6	1416.2	1440.5	1456.6	1458.1
130°	1472.6	1498.5	1516.1	1533.9	1532.4
132.5°	1553.2	1574.2	1591.9	1606.4	1604.9
135°	1620.9	1646.7	1661.1	1677.3	1674.1
137.5°	1691.7	1711.1	1727.3	1743.4	1738.6
140°	1761.0	1774.0	1791.6	1806.1	1798.1
142.5°	1819.1	1830.4	1851.2	1864.1	1856.1
145°	1880.4	1878.7	1906.0	1917.3	1909.3
147.5°	1933.3	1928.6	1956.0	1964.0	1957.7
150°	1985.0	1973.8	1999.6	2009.1	2001.1
152.5°	2028.4	2015.6	2039.8	2049.5	2038.2
155°	2070.4	2056.0	2075.3	2084.9	2072.1
157.5°	2104.2	2091.4	2105.9	2117.2	2104.2
160°	2133.4	2123.5	2133.4	2142.9	2131.6
162.5°	2159.0	2149.4	2157.4	2168.7	2154.2
165°	2181.5	2172.0	2176.7	2188.0	2176.7
167.5°	2199.3	2189.5	2194.5	2205.8	2191.3
170°	2213.8	2204.1	2207.3	2218.7	2204.1
172.5°	2223.5	2213.8	2217.1	2228.4	2213.8
175°	2231.5	2220.2	2223.5	2234.7	2218.7
177.5°	2234.7	2223.5	2225.2	2236.5	2221.9
180°	2226.7	2226.7	2226.7	2226.7	2226.7

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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	6.11	6.81	7.22	7.92	9.45	5.68	6.39	6.79	7.49	9.02
	3H	7.75	8.38	8.87	9.50	11.04	7.28	7.91	8.40	9.03	10.57
	4H	8.32	8.92	9.45	10.04	11.59	7.85	8.46	8.98	9.57	11.12
	6H	8.71	9.26	9.84	10.38	11.94	8.24	8.79	9.38	9.91	11.47
	8H	8.80	9.33	9.94	10.46	12.02	8.33	8.86	9.48	9.99	11.55
	12H	8.84	9.34	9.99	10.47	12.05	8.37	8.87	9.51	10.00	11.58
4H	2H	6.55	7.15	7.68	8.26	9.82	6.21	6.81	7.34	7.92	9.47
	3H	8.39	8.89	9.53	10.03	11.60	8.00	8.50	9.14	9.64	11.21
	4H	9.09	9.55	10.24	10.68	12.27	8.69	9.15	9.83	10.28	11.86
	6H	9.59	9.98	10.74	11.14	12.71	9.18	9.58	10.33	10.73	12.31
	8H	9.73	10.10	10.88	11.24	12.83	9.32	9.69	10.47	10.84	12.43
	12H	9.79	10.12	10.96	11.28	12.88	9.37	9.71	10.54	10.86	12.46
8H	4H	9.27	9.64	10.42	10.78	12.38	8.91	9.28	10.06	10.43	12.02
	6H	9.88	10.19	11.05	11.37	12.96	9.52	9.83	10.70	11.02	12.60
	8H	10.10	10.36	11.27	11.53	13.14	9.73	10.00	10.91	11.16	12.77
	12H	10.21	10.45	11.39	11.61	13.25	9.84	10.07	11.02	11.23	12.87
12H	4H	9.25	9.58	10.41	10.74	12.33	8.90	9.23	10.07	10.39	11.99
	6H	9.91	10.18	11.09	11.34	12.95	9.56	9.83	10.74	10.99	12.60
	8H	10.14	10.37	11.32	11.53	13.18	9.78	10.02	10.97	11.18	12.82

END OF REPORT