

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: P926232

Luminaire Tested: DFN2DIP-TR3F0-040D080US950-RLLFLL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P926232
REPORT IS A COMBINATION OF REPORTS P900344 AND P897195
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-TR3F0-040D080US950-RLLFLL
Description: 3 foot, Triangle Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

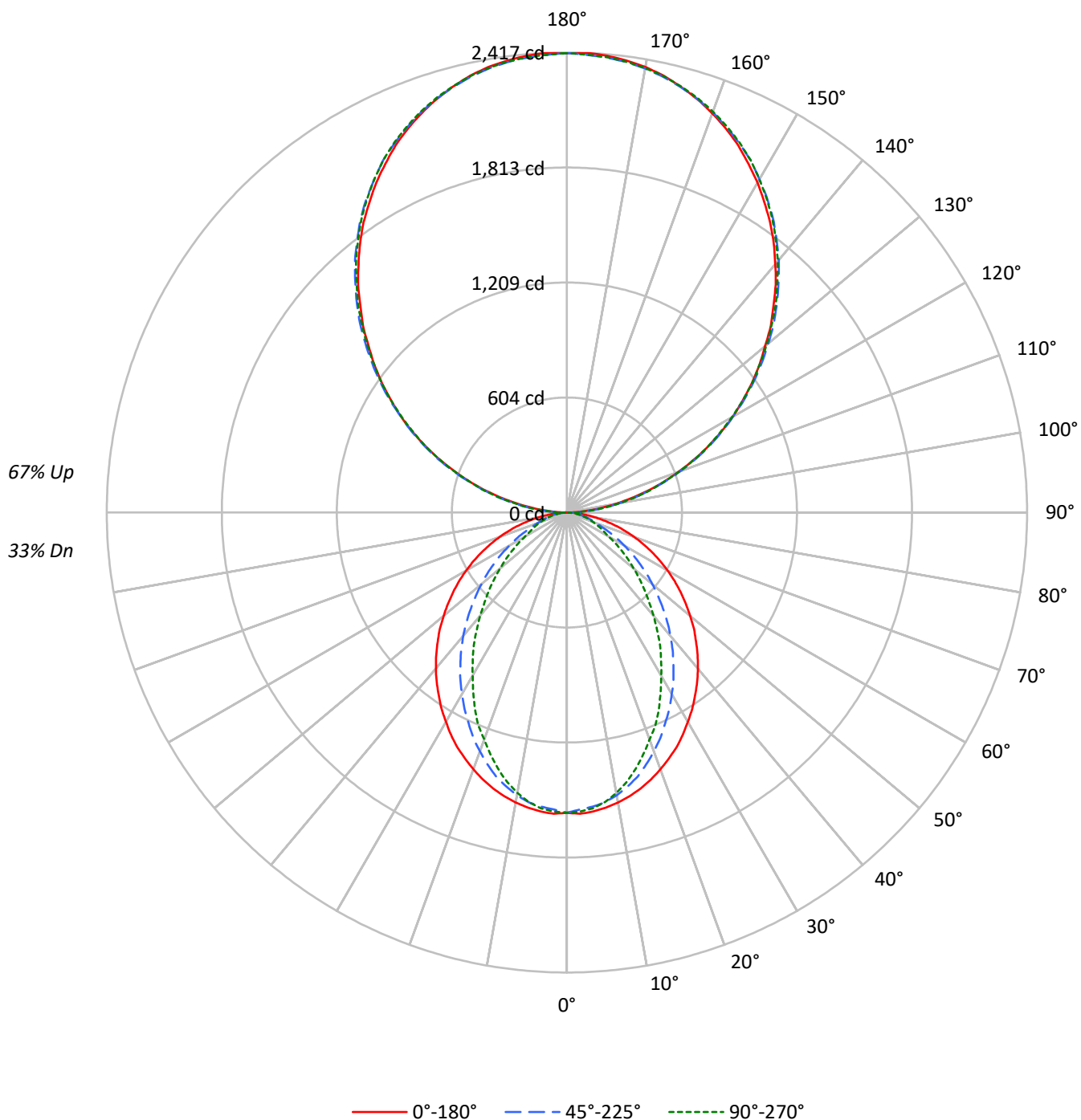
Lumens per Lamp: N/A
Luminaire Lumens: 9997.9 lumens
Efficiency: N/A
Efficacy: 104.0 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular w/ Sides (W: 2.74' x L: 3.16' x H: 0.1')
CIE Type: Semi-Indirect

Input Watts (W): 96.1
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

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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
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10
RCR																	
0	103	103	103	103	93	93	93	93	74	74	74	56	56	56	40	40	40
1	94	90	86	83	85	81	78	75	65	63	61	50	48	47	36	35	34
2	86	79	73	68	77	71	67	62	57	54	51	44	42	40	32	31	29
3	79	70	63	57	71	63	57	52	51	46	43	39	36	34	29	27	25
4	72	62	54	49	65	56	50	45	45	41	37	35	32	29	26	24	22
5	66	55	47	42	59	50	43	38	40	36	32	32	28	26	23	21	19
6	61	49	42	36	55	45	38	33	36	32	28	29	25	23	21	19	17
7	56	45	37	32	51	41	34	29	33	28	25	26	23	20	19	17	15
8	52	40	33	28	47	37	30	26	30	25	22	24	20	18	18	16	14
9	49	37	30	25	44	34	27	23	28	23	20	22	19	16	17	14	13
10	45	34	27	22	41	31	25	21	25	21	18	20	17	15	15	13	11

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1965	1965	1965
5°	1967	1932	1945
10°	1947	1893	1881
15°	1919	1829	1782
20°	1882	1741	1660
25°	1845	1643	1543
30°	1795	1542	1396
35°	1746	1435	1266
40°	1696	1323	1117
45°	1638	1200	983
50°	1579	1075	851
55°	1516	943	725
60°	1443	804	596
65°	1360	663	535
70°	1258	532	482
75°	1130	466	436
80°	946	385	374
85°	644	250	273

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 90°

Luminance: 2358 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	147.8	1.5
10°-20°	405.8	4.1
20°-30°	569.7	5.7
30°-40°	621.0	6.2
40°-50°	570.8	5.7
50°-60°	448.2	4.5
60°-70°	291.8	2.9
70°-80°	150.2	1.5
80°-90°	45.2	0.5
90°-100°	149.4	1.5
100°-110°	474.6	4.7
110°-120°	812.1	8.1
120°-130°	1068.1	10.7
130°-140°	1198.9	12.0
140°-150°	1175.6	11.8
150°-160°	986.2	9.9
160°-170°	654.0	6.5
170°-180°	228.6	2.3
0°-30°	1123.3	11.2
0°-40°	1744.3	17.4
0°-60°	2763.3	27.6
0°-90°	3250.5	32.5
90°-120°	1436.1	14.4
90°-150°	4878.6	48.8
90°-180°	6747.0	67.5
0°-180°	9997.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1577	1577	1577	1577	1577	
5°	1577	1570	1551	1564	1560	150
15°	1500	1484	1436	1409	1395	423
25°	1362	1316	1222	1163	1142	626
35°	1173	1100	975	885	853	734
45°	959	864	714	612	578	741
55°	729	618	464	378	351	652
65°	492	377	248	200	196	488
75°	262	163	114	104	103	278
85°	61	31	27	27	27	70
90°	2	26	71	67	69	10
95°	106	127	130	130	127	118
105°	438	444	448	452	452	462
115°	815	827	823	821	815	806
125°	1185	1204	1198	1191	1189	1059
135°	1533	1556	1560	1558	1552	1185
145°	1861	1876	1888	1890	1882	1163
155°	2128	2134	2141	2151	2144	980
165°	2316	2313	2313	2328	2318	653
175°	2409	2404	2399	2414	2401	229
180°	2414	2414	2414	2414	2414	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1577.2	1577.2	1577.2	1577.2	1577.2
2.5°	1584.3	1577.2	1561.4	1575.8	1572.9
5°	1577.2	1570.0	1551.4	1564.3	1560.1
7.5°	1564.3	1555.8	1535.8	1541.4	1534.3
10°	1547.2	1537.2	1508.7	1504.3	1495.9
12.5°	1525.8	1512.9	1474.3	1465.8	1450.1
15°	1500.1	1484.3	1435.9	1408.8	1394.6
17.5°	1470.1	1447.2	1387.2	1355.9	1333.0
20°	1435.9	1407.2	1335.9	1300.3	1268.8
22.5°	1398.8	1365.9	1283.0	1234.6	1213.3
25°	1361.6	1315.9	1221.7	1163.3	1141.7
27.5°	1317.5	1268.8	1164.6	1097.6	1064.7
30°	1270.3	1216.0	1101.8	1029.1	990.5
32.5°	1224.6	1158.9	1042.0	956.3	920.5
35°	1173.3	1100.4	974.9	884.9	853.4
37.5°	1123.3	1044.7	912.0	813.5	777.9
40°	1070.5	984.9	846.4	745.1	708.0
42.5°	1016.2	924.9	780.8	675.1	639.5
45°	959.2	863.5	713.7	612.3	578.0
47.5°	905.0	803.6	649.5	548.1	516.7
50°	845.0	743.6	586.6	488.1	458.2
52.5°	786.4	679.3	526.7	432.4	405.4
55°	729.3	618.0	463.8	378.3	351.2
57.5°	670.9	556.7	408.2	328.3	305.5
60°	610.8	496.7	349.6	276.9	254.1
62.5°	552.5	438.3	299.7	231.2	219.9
65°	492.5	376.7	248.3	199.9	195.5
67.5°	435.4	319.7	199.9	175.5	171.2
70°	375.4	264.1	165.5	151.3	145.5
72.5°	318.3	212.6	138.4	127.1	124.2
75°	262.5	162.7	114.2	104.2	102.8
77.5°	207.0	115.5	90.0	84.2	81.3
80°	155.5	82.8	68.4	62.9	62.9
82.5°	108.5	55.7	47.1	44.2	44.2
85°	61.3	31.4	27.1	27.1	27.1
87.5°	22.9	11.4	11.4	10.0	10.0
90°	2.2	26.2	71.4	67.0	69.2
92.5°	45.1	61.2	63.3	65.4	65.4
95°	106.3	126.6	130.2	130.2	126.6
97.5°	176.9	195.8	203.8	203.8	203.8
100°	258.3	275.0	280.9	280.9	278.7
102.5°	344.2	356.6	364.5	366.7	364.5
105°	438.1	443.9	448.3	451.9	451.9
107.5°	531.2	540.0	540.0	541.4	531.2
110°	621.4	633.1	633.1	633.1	627.3

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	718.9	731.3	729.1	723.3	718.9
115°	815.0	826.6	823.0	820.8	815.0
117.5°	910.3	926.3	916.1	910.3	904.5
120°	1006.4	1022.4	1006.4	1006.4	999.8
122.5°	1093.7	1114.1	1103.9	1098.1	1093.7
125°	1185.3	1203.6	1197.7	1191.2	1189.1
127.5°	1274.9	1297.4	1289.4	1280.7	1274.9
130°	1358.6	1384.7	1381.1	1376.8	1368.8
132.5°	1452.5	1472.8	1474.3	1464.1	1458.3
135°	1533.2	1555.8	1560.2	1558.0	1552.2
137.5°	1623.4	1641.6	1645.3	1643.8	1635.1
140°	1702.8	1720.9	1731.1	1731.1	1723.1
142.5°	1784.3	1802.5	1808.3	1810.5	1802.5
145°	1861.4	1875.9	1887.6	1889.8	1881.8
147.5°	1930.5	1948.7	1957.4	1961.1	1953.1
150°	2001.9	2014.2	2022.2	2028.8	2022.2
152.5°	2065.1	2077.5	2087.7	2095.7	2087.7
155°	2128.5	2134.3	2140.9	2151.0	2144.5
157.5°	2183.0	2187.4	2191.1	2205.6	2195.4
160°	2231.8	2236.2	2238.4	2250.7	2242.0
162.5°	2276.9	2276.9	2279.1	2292.9	2282.7
165°	2315.5	2313.3	2313.3	2327.9	2317.6
167.5°	2350.4	2343.9	2343.9	2358.4	2348.2
170°	2376.6	2370.8	2368.6	2383.2	2370.8
172.5°	2394.8	2389.0	2386.8	2401.3	2389.0
175°	2409.3	2403.5	2399.1	2413.7	2401.3
177.5°	2417.3	2411.5	2407.1	2419.5	2407.1
180°	2413.7	2413.7	2413.7	2413.7	2413.7

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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	7.54	8.25	8.64	9.34	10.84	3.52	4.22	4.62	5.32	6.82
	3H	9.20	9.83	10.31	10.93	12.45	4.69	5.32	5.80	6.42	7.94
	4H	9.80	10.39	10.91	11.50	13.02	5.13	5.73	6.25	6.83	8.36
	6H	10.20	10.75	11.33	11.86	13.40	5.44	5.99	6.57	7.10	8.63
	8H	10.32	10.85	11.45	11.97	13.50	5.53	6.05	6.66	7.17	8.70
	12H	10.38	10.87	11.51	11.99	13.54	5.56	6.06	6.70	7.17	8.73
4H	2H	7.54	8.14	8.67	9.24	10.77	4.09	4.69	5.22	5.79	7.32
	3H	9.35	9.85	10.48	10.98	12.51	5.42	5.92	6.56	7.05	8.59
	4H	10.03	10.49	11.16	11.61	13.16	5.96	6.42	7.10	7.54	9.10
	6H	10.53	10.92	11.67	12.06	13.61	6.37	6.76	7.51	7.90	9.45
	8H	10.70	11.06	11.84	12.20	13.76	6.49	6.86	7.63	7.99	9.56
	12H	10.78	11.11	11.94	12.26	13.83	6.55	6.88	7.71	8.02	9.60
8H	4H	9.99	10.35	11.13	11.49	13.05	6.23	6.59	7.37	7.73	9.29
	6H	10.54	10.84	11.70	12.01	13.58	6.73	7.04	7.90	8.21	9.77
	8H	10.75	11.01	11.91	12.17	13.75	6.92	7.18	8.09	8.34	9.92
	12H	10.87	11.11	12.04	12.26	13.87	7.03	7.26	8.20	8.41	10.03
12H	4H	9.93	10.26	11.09	11.41	12.98	6.23	6.56	7.38	7.70	9.27
	6H	10.51	10.78	11.68	11.93	13.51	6.78	7.04	7.95	8.20	9.78
	8H	10.72	10.95	11.89	12.10	13.72	6.98	7.21	8.15	8.36	9.98