

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: P907110

Luminaire Tested: DFN2DIP-TR3F0-030D080US835-RLLFLL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P907110
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-TR3F0-030D080US835-RLLFLL
Description: 3 foot, Triangle Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Frosted Lens
Light Source: -
Ballast/Driver: -

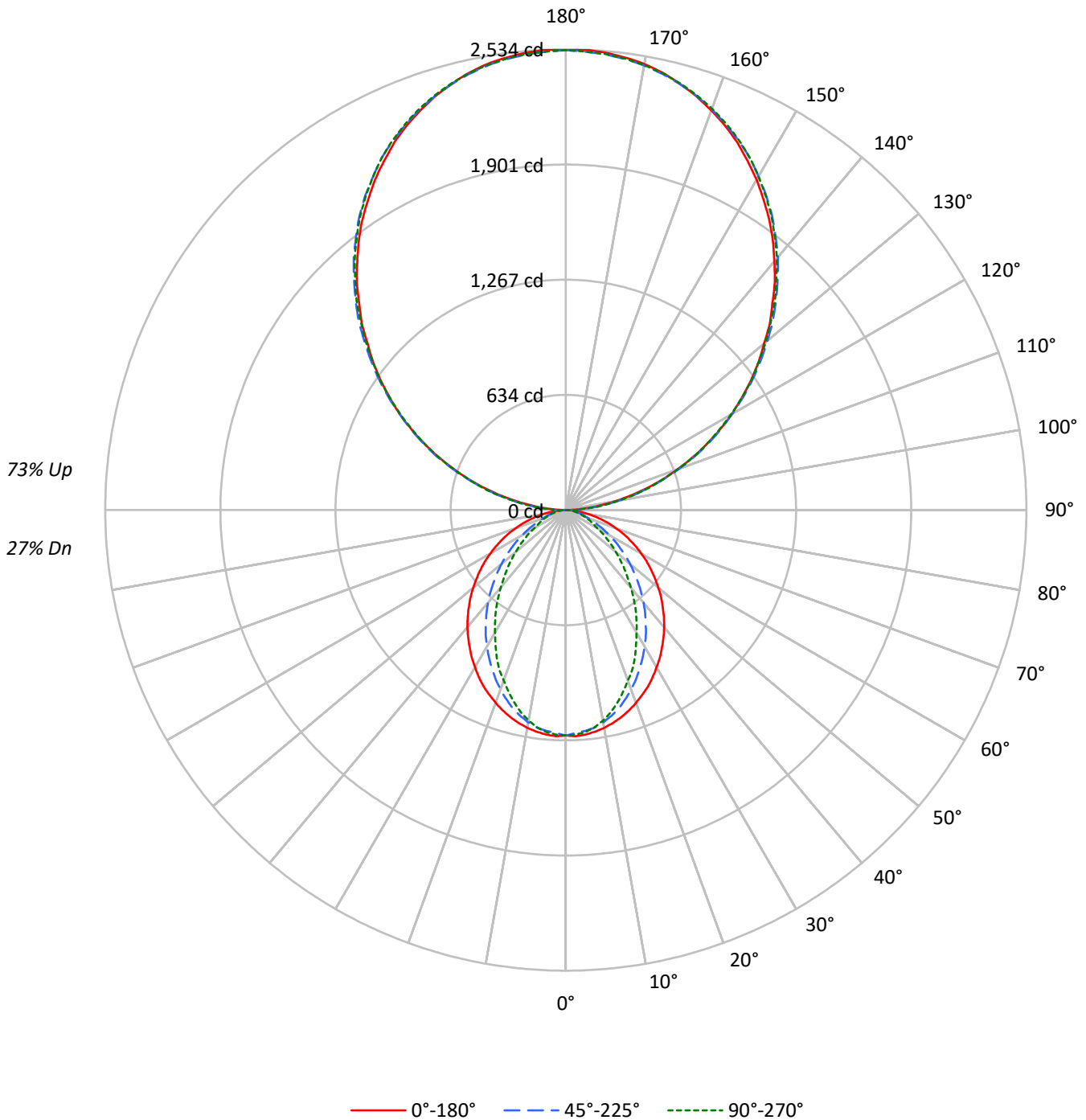
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 9630.0 lumens
Efficiency: N/A
Efficacy: 113.2 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: 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

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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

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

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1545	1545	1545
5°	1547	1519	1529
10°	1530	1488	1478
15°	1509	1438	1401
20°	1480	1369	1305
25°	1450	1292	1213
30°	1411	1213	1097
35°	1373	1128	995
40°	1334	1040	878
45°	1288	943	773
50°	1241	845	669
55°	1192	741	570
60°	1135	632	468
65°	1069	522	420
70°	989	419	379
75°	889	366	342
80°	744	303	294
85°	506	196	215

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°
 Vertical Angle: 90°
 Luminance: 2471 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	116.2	1.2
10°-20°	319.0	3.3
20°-30°	447.9	4.7
30°-40°	488.2	5.1
40°-50°	448.7	4.7
50°-60°	352.4	3.7
60°-70°	229.4	2.4
70°-80°	118.1	1.2
80°-90°	37.3	0.4
90°-100°	156.6	1.6
100°-110°	497.5	5.2
110°-120°	851.3	8.8
120°-130°	1119.6	11.6
130°-140°	1256.7	13.0
140°-150°	1232.3	12.8
150°-160°	1033.7	10.7
160°-170°	685.6	7.1
170°-180°	239.6	2.5
0°-30°	883.1	9.2
0°-40°	1371.3	14.2
0°-60°	2172.4	22.6
0°-90°	2557.2	26.6
90°-120°	1505.3	15.6
90°-150°	5113.9	53.1
90°-180°	7073.0	73.4
0°-180°	9630.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1240	1240	1240	1240	1240	
5°	1240	1234	1220	1230	1226	118
15°	1179	1167	1129	1108	1096	332
25°	1070	1034	960	914	898	492
35°	922	865	766	696	671	577
45°	754	679	561	481	454	582
55°	573	486	365	297	276	512
65°	387	296	195	157	154	384
75°	206	128	90	82	81	218
85°	48	25	21	21	21	55
90°	2	28	75	70	72	10
95°	111	133	136	136	133	124
105°	459	465	470	474	474	485
115°	854	866	863	860	854	845
125°	1242	1262	1256	1249	1246	1110
135°	1607	1631	1635	1633	1627	1242
145°	1951	1966	1979	1981	1972	1219
155°	2231	2237	2244	2255	2248	1027
165°	2427	2425	2425	2440	2429	685
175°	2526	2519	2515	2530	2517	240
180°	2530	2530	2530	2530	2530	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1239.9	1239.9	1239.9	1239.9	1239.9
2.5°	1245.5	1239.9	1227.5	1238.8	1236.6
5°	1239.9	1234.3	1219.7	1229.8	1226.4
7.5°	1229.8	1223.1	1207.4	1211.8	1206.2
10°	1216.3	1208.5	1186.1	1182.6	1176.0
12.5°	1199.5	1189.4	1159.1	1152.4	1140.0
15°	1179.3	1166.9	1128.8	1107.5	1096.3
17.5°	1155.7	1137.8	1090.6	1066.0	1048.0
20°	1128.8	1106.3	1050.2	1022.3	997.5
22.5°	1099.7	1073.8	1008.7	970.6	953.8
25°	1070.5	1034.5	960.5	914.5	897.6
27.5°	1035.7	997.5	915.6	862.9	837.0
30°	998.7	956.0	866.2	809.1	778.7
32.5°	962.7	911.1	819.2	751.8	723.7
35°	922.4	865.1	766.4	695.7	671.0
37.5°	883.1	821.3	717.0	639.5	611.6
40°	841.6	774.3	665.4	585.7	556.6
42.5°	798.9	727.2	613.8	530.7	502.7
45°	754.1	678.8	561.1	481.3	454.4
47.5°	711.4	631.8	510.6	430.8	406.2
50°	664.3	584.6	461.2	383.7	360.2
52.5°	618.2	534.1	414.1	340.0	318.7
55°	573.3	485.8	364.6	297.4	276.1
57.5°	527.4	437.6	321.0	258.1	240.1
60°	480.2	390.5	274.9	217.7	199.8
62.5°	434.3	344.5	235.6	181.8	172.9
65°	387.1	296.2	195.2	157.1	153.7
67.5°	342.3	251.3	157.1	138.0	134.6
70°	295.1	207.6	130.1	118.9	114.4
72.5°	250.2	167.1	108.8	99.9	97.6
75°	206.4	127.9	89.8	81.9	80.8
77.5°	162.7	90.8	70.7	66.2	63.9
80°	122.3	65.1	53.8	49.4	49.4
82.5°	85.2	43.8	37.0	34.8	34.8
85°	48.2	24.6	21.3	21.3	21.3
87.5°	18.0	8.9	8.9	7.9	7.9
90°	2.3	27.5	74.8	70.2	72.5
92.5°	47.3	64.1	66.4	68.6	68.6
95°	111.4	132.7	136.5	136.5	132.7
97.5°	185.4	205.2	213.6	213.6	213.6
100°	270.8	288.3	294.4	294.4	292.1
102.5°	360.8	373.8	382.1	384.4	382.1
105°	459.2	465.3	469.9	473.7	473.7
107.5°	556.8	566.0	566.0	567.5	556.8
110°	651.4	663.6	663.6	663.6	657.5



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	753.6	766.6	764.3	758.2	753.6
115°	854.3	866.5	862.7	860.4	854.3
117.5°	954.2	971.0	960.3	954.2	948.1
120°	1054.9	1071.7	1054.9	1054.9	1048.0
122.5°	1146.4	1167.8	1157.1	1151.0	1146.4
125°	1242.5	1261.6	1255.5	1248.6	1246.4
127.5°	1336.4	1360.0	1351.6	1342.5	1336.4
130°	1424.1	1451.5	1447.7	1443.2	1434.8
132.5°	1522.5	1543.8	1545.4	1534.7	1528.6
135°	1607.1	1630.8	1635.4	1633.1	1627.0
137.5°	1701.7	1720.8	1724.6	1723.1	1713.9
140°	1784.9	1803.9	1814.6	1814.6	1806.2
142.5°	1870.3	1889.4	1895.5	1897.8	1889.4
145°	1951.2	1966.4	1978.6	1980.9	1972.5
147.5°	2023.6	2042.7	2051.8	2055.7	2047.3
150°	2098.4	2111.3	2119.7	2126.6	2119.7
152.5°	2164.7	2177.7	2188.4	2196.8	2188.4
155°	2231.1	2237.2	2244.1	2254.7	2247.9
157.5°	2288.3	2292.9	2296.7	2311.9	2301.3
160°	2339.4	2344.0	2346.3	2359.2	2350.1
162.5°	2386.7	2386.7	2389.0	2403.5	2392.8
165°	2427.1	2424.8	2424.8	2440.1	2429.4
167.5°	2463.7	2456.9	2456.9	2472.1	2461.4
170°	2491.2	2485.1	2482.8	2498.1	2485.1
172.5°	2510.3	2504.2	2501.9	2517.1	2504.2
175°	2525.5	2519.4	2514.8	2530.1	2517.1
177.5°	2533.9	2527.8	2523.2	2536.2	2523.2
180°	2530.1	2530.1	2530.1	2530.1	2530.1



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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	5.87	6.54	7.01	7.67	9.24	1.85	2.52	2.99	3.65	5.22
	3H	7.53	8.13	8.68	9.26	10.85	3.02	3.62	4.17	4.75	6.34
	4H	8.12	8.69	9.28	9.83	11.42	3.46	4.03	4.62	5.16	6.76
	6H	8.53	9.05	9.69	10.19	11.79	3.77	4.29	4.93	5.43	7.03
	8H	8.65	9.14	9.81	10.30	11.89	3.85	4.35	5.02	5.50	7.10
	12H	8.70	9.17	9.87	10.32	11.94	3.89	4.36	5.06	5.50	7.12
4H	2H	5.87	6.44	7.03	7.57	9.17	2.42	2.99	3.58	4.12	5.72
	3H	7.67	8.15	8.84	9.31	10.91	3.75	4.22	4.92	5.38	6.99
	4H	8.35	8.79	9.52	9.94	11.56	4.29	4.72	5.46	5.87	7.49
	6H	8.85	9.22	10.03	10.39	12.01	4.69	5.06	5.87	6.23	7.85
	8H	9.02	9.36	10.19	10.53	12.16	4.81	5.16	5.99	6.32	7.95
	12H	9.10	9.41	10.29	10.59	12.22	4.87	5.18	6.06	6.36	7.99
8H	4H	8.31	8.65	9.48	9.82	11.45	4.55	4.90	5.72	6.06	7.69
	6H	8.86	9.14	10.05	10.35	11.98	5.05	5.34	6.25	6.55	8.17
	8H	9.07	9.32	10.27	10.50	12.15	5.24	5.49	6.44	6.67	8.32
	12H	9.19	9.41	10.39	10.59	12.27	5.35	5.57	6.55	6.75	8.43
12H	4H	8.25	8.57	9.44	9.74	11.38	4.54	4.86	5.73	6.03	7.67
	6H	8.83	9.08	10.03	10.26	11.91	5.10	5.35	6.30	6.53	8.18
	8H	9.04	9.26	10.24	10.44	12.12	5.30	5.52	6.50	6.70	8.38